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DefTech speakers
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■ FURY ■ THE STRAIN
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■ DRACULA UNTOLD
■ THE EQUALIZER

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www.homecinemachoice.com

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WELCOME

To paraphrase Douglas Adams, the CES tech expo is big. Really big. You just won't believe how vastly, hugely, mind-bogglingly big it is. Thankfully, the consumer electronics industry also arrives in Las Vegas with some big ideas. And this year that meant lots of home cinema-centric innovations that really excite. See p18 for more.



Do we have an equivalent tech show in the UK? Not in the slightest. Indeed, **for a region with a population nudging 65m people, there's a distinct shortage of giant AV expos.** On the other hand, we do have smaller events that are actually open to the general public (CES is trade only!). These include Sound & Vision: The Bristol Show later this month (see p9), where – amongst the many hi-fi demos – you can get up close and personal with new home cinema gear without having to push past 160,000 people first. Big isn't necessarily always better...

Mark Craven
Editor



MENU



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John Archer:
The UK's most experienced TV tester cut his teeth as an early HCC staffer

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Industry veteran and former Editor of UK CE trade journal ERT

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HCC's former Editor-in-Chief is one of the UK's most respected AV journo

Martin Pipe:
Technical expert Martin is renowned throughout the home cinema industry

Adam Rayner:
The UK's foremost expert in extreme audio writes about bass, hi-fi and, er, cartoons

Adrian Justins:
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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- THEY ARE ALL AT BRISTOL**

And there are lots more surprises in store...

- ✓ The UK's largest and longest running Hi-Fi and Home Cinema Show - now in its 28th year!
- ✓ Visit the What Hi-Fi? magazine stand for a demonstration or an answer to any questions you might have
- ✓ Pick up a fantastic Show bargain... with great deals on most purchases!

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GETTING TO THE SHOW

BY TRAIN: Temple Meads Station is a short distance from the Marriott.

BY CAR: From the M4 take J19 (M32 - Bristol). Follow signs for City Centre and RAC signs to the Show. For those using satellite navigation systems the hotel post code is BS1 3AD. Easy local parking in Cabot Circus car park and Broadmead and Bond Street NCPs.



www.bristolshow.co.uk

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WHAT HI-FI?



BULLETIN

→ **NEWS HIGHLIGHTS** **WHARFEDALE** Diamond speaker range now shines even brighter
OPTOMA NUFORCE New AV brand preps for Bristol Show debut **DIGITAL HD** 20th Century Fox celebrates
 best ever year for movie downloads **CRESTRON** Home automation aimed at the everyman? **NEWS X10**
 The hottest news in bite-size chunks **HUNGER GAMES** Mockingjay flies onto BD and DVD **AND MORE!**

Super TV?

Samsung JS9500 → www.samsung.co.uk



Samsung kicks off 2014's TV wars with a new flagship 4K screen and new branding – the JS9500 isn't just a UHD TV, it's an SUHD TV. So what does that 'S' stand for? Your guess is as good as ours. What we do know is that the new top-flight curved screen employs Quantum Dot technology for improved colour and brightness over Samsung's previous LED TVs, a full-array locally-dimmed backlight and carries the new Tizen Smart TV system. Get it later this year in sizes up to 88in.

HCC ONLINE...

Looking for breaking AV news, blogs, features, & reviews? For your daily fix visit us at www.homecinemachoice.com Follow us on Twitter @hccmag

Shining brightly

Wharfedale Diamond 200 Series → www.wharfedale.co.uk



The successor to its award-winning Diamond 100 lineup, Wharfedale's new six-strong Diamond 200 family of speakers is now available to buy. Boasting revised cabinet construction, upgraded crossover networks, a new lacquered baffle design, enhanced slot-loaded ports and retooled bass driver magnets, the 200 range made its debut last Autumn with the standmount Diamond 220 (£200 p/p).

That speaker has now been joined by the compact Diamond 210 satellite (£140 p/p), a trio of floorstanders – the Diamond 230 (£500 p/p), Diamond 240 (£700 p/p) and Diamond 250 (£1,000 p/p) – and the Diamond 220C dedicated centre speaker (£200). For multichannel AV setups, Wharfedale recommends adding one of its PowerCube SPC range of subwoofers for low-end duties.

Touching base



Pioneer has launched its first ever

soundbase speaker. Claiming a total power output of 130W, the £230 SBX-B30 features a quad-driver array – two full-range front speakers and two down-firing subwoofers. Connection to a TV is via analogue or optical, while users streaming music to the soundbase via Bluetooth are advised to use Pioneer's free Wireless Streaming app, which offers EQ and tempo controls, plus 'other special features.' The soundbase can be used with screens weighing up to 40kg. www.pioneer.co.uk

Budget booster



Lindy wants to improve the listening experience for people using

smartphones and MP3 players by virtue of its new Mini Headphone Amp and Splitter. This £23 add-on features dual amplifiers (and dual headphone outputs) to increase output by 120%, making driving headphones easier and reducing the power consumption of the playback device. Lindy's gizmo claims a 12-hour battery life (helped by an auto shut-off feature) and hooks up to source via 3.5mm input. www.lindy.co.uk

Premium partners



The first fruits of the partnership between portable high-res audio player

manufacturer Astell&Kern and in-ear monitor specialist JH Audio has hit the US. Named after Eric Clapton's rock song, the all-new Layla studio-quality in-ear monitors boast a 12-driver (quad low, quad mid and quad high) design, steel tube waveguides and have been tuned for Astell&Kern's line of portable hi-res audio players. Of course, this sort of premium design and performance doesn't come cheap – hence the \$2,500 price-tag... www.jlhaudio.com

Optoma NuForce targets UK

Audio products to debut at Sound & Vision: The Bristol Show in Feb

Optoma NuForce, a new AV marque formed after the global projector honcho acquired the American audio specialist last year, will be showcasing some of its product line at this year's Sound & Vision: The Bristol Show.

The company has a full slate of hardware due to arrive in Blighty over the coming months. This includes the home cinema-centric AVP18 processor/pre-amp and MCA20 multichannel power amp, and hi-fi and mobile audio-flavoured components including headphones, Bluetooth receivers, DACs and stereo amplifiers. Attendees at the Bristol Show will be able to audition its DDA120 integrated stereo amplifier and uDAC3 USB DAC/headphone amp.

Optoma sees the launch of AV separates gear as being a natural fit with its extensive Full HD projector lineup. 'Sound is such an important part of the home entertainment experience,' says Justin Halls, Optoma's head of product marketing. 'A cinema-sized image coupled with great sound can transform any living space.'

Another multichannel amplifier will be launched later in 2015, we're told. The NuForce brand will already be familiar to some home cinema enthusiasts, after the release of NuForce-upgraded Oppo Blu-ray players a few years ago.

Optoma NuForce's incoming AVP18 pre-amp/processor



Lining up to enter The Bristol Show

One hundred and eighty!

So what else can you expect from Sound & Vision: The Bristol Show? Plenty. Now in its 28th year, and once again making its home at the Marriot City Centre Hotel (set your satnav for BS1 3AD), the gathering runs for three days from February 20 and has lined up over 180 exhibitors, including major names such as Sony, Yamaha, Pioneer, Onkyo, KEF and JVC.

For most visitors, it will be a first chance to clap eyes (and ears) on some of the hardware that was launched at this year's CES. REL, for instance, will be bringing its 212SE subwoofer, while ELAC's new on-wall speakers and subwoofers will make an appearance.

Tickets for the show can be purchased on the day or online from www.bristolshow.co.uk – check out our next issue for a full report.

PLAYLIST...

Team HCC spins up its disc picks of the month

The Expendables 3 (Region B BD)

Sly, Stath and the gang bring some new faces along for the ride in this fun sequel. However, it's the Dolby Atmos track that ensures this Blu-ray platter is rarely out of action for long...



'71 (Region B BD)



Jack O'Connell stars in this tense thriller about a young British soldier abandoned after a riot on the fraught streets of Belfast in 1971.

Toast of London: Series Two (R2 DVD)



Struggling thespian Steven Toast (Matt Berry) is back with six more hilarious misadventures – bolstered on DVD by some equally fun extras.

Ghost in the Shell: Arise (Region B BD)



The iconic anime franchise returns as a new four-part series – this fab Blu-ray collects the first two parts.

Far Cry 4 (Xbox One/ Xbox 360/PS4/PS3/PC)



So much fun, you'll wonder why more first-person shooters don't let you ride elephants into battle!

EXTRAS...

Small items that could make a big impression

The Art of Robert E. McGinnis



Even if his name isn't immediately familiar, film fans are bound to recognise Robert E. McGinnis's iconic posters for *Breakfast at Tiffany's* and *Thunderball*. Both appear in this handsome 176-page hardback alongside several decades' worth of the crime and romance novel covers he remains best known for. At £20, it's a must for all art fans.

Powercube Extended USB



This nifty gadget is the 'most extensive' addition to the Powercube mains adapter range yet, boasting four mains sockets, two USB ports, a twist-and-mount docking station and a 1.5m extension cable. Costs £22 from www.handpickedcollection.com.

Inside HBO's Game of Thrones: Seasons 3 & 4



Packed with behind-the-scenes photos and commentary from the cast and crew, this beautifully presented £20 192-page hardback provides a fascinating window into the making of HBO's award-winning fantasy series.

Fox's UK download deluge

Digital HD purchases up 280 per cent – helped by X-Men, Apes and Sky

Digital movie purchases are playing an increasingly important part in Twentieth Century Fox Home Entertainment's plans, with the studio reporting a 280 per cent increase in sales for 2014 compared to the previous year.

Fox has become a big supporter of the download market, with many titles enjoying a Digital HD release in addition to DVD and Blu-ray.

The studio has highlighted two of its blockbuster titles, released in the final quarter of 2014, as indicative of a growing appetite among UK consumers for a digital, rather than physical, purchase. With *X-Men: Days of Future Past*, Fox scored its biggest-selling digital title to date, with 15 per cent of total sales being Digital HD. This is a five-times greater share than the 2.9 per cent gathered by *The Wolverine* last year. *Dawn of the Planet of the Apes* saw digital purchases make up a 14 per cent share of revenue in its first four weeks of release, up to December 6.

'With more than 180 million connected devices in the UK, [Fox] is celebrating a record year of digital sales,' says the company. Adds UK MD Robert Price: 'It's clear from our results that the proliferation of digital platforms and devices in the UK has led to fans becoming increasingly comfortable in accessing



Robert Price: Film fans are 'increasingly comfortable' with watching content on digital devices, says Fox's UK MD

digital entertainment. We have seen a step-change in our business.'

Fox's cumulative physical and digital business is also up, with figures for Q4 2014 36 per cent higher than the same period in 2013.

Sky partner

The studio reveals that its Digital HD success is being aided by Sky's nascent Buy and Keep service, which gives customers a DVD copy of a film they've downloaded to their Sky box. Buy and Keepers accounted for half of all digital sales of *Dawn of the Planet of the Apes*, a figure the studio claims is 'staggering.'

And while it's arguable that any service that includes a physical copy of a movie should be counted as a digital purchase, Sky doesn't care. Says Sky Store's director Nicola Bamford: 'We are breaking down the barriers to digital ownership in the UK [and] have been able to quickly realise a healthy share of the Digital HD market.'

Like other studios, Fox's Digital HD platform provides early access to certain titles, usually a week or two before discs hit shop shelves.



Masters of the audio universe

High-performance pre-amp/processor and power amp hit the UK

Following their unveiling at the High End expo in Munich last year, the first two models from NAD Electronics' new Masters Series of high-spec AV components have arrived at UK dealers.

The M17 Surround Sound AV Preamp Processor (£4,500) and M27 Seven Channel Power Amplifier (£3,500) both employ the brand's familiar Modular Design Construction, which places all inputs and associated hardware on replaceable modules, ready for upgrades. As such, while 4K/Ultra HD compatibility isn't available as

standard, included with the M17 is a free upgrade to NAD's VM300 MDC Video Module when it becomes available, which promises to add HDMI 2.0 and HDCP 2.2 functionality.

The pre-amp offers Dolby TrueHD and DTS-HD MA support, and six-in, two-out HDMI connectivity. Both phono and balanced XLR outputs are available for all seven channels. The M27 power amp, meanwhile, claims 7 x 180W with all channels driven, the grunt provided by nCore hybrid digital amplifier tech licensed from Hypex.

M17 buyers are entitled to a free HDCP 2.2/HDMI 2.0 upgrade when available



ELEVATE YOUR SENSES



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www.kef.com



DIARY

Our calendar ensures that you don't miss out...

→ FEBRUARY

13: **Fifty Shades of Grey**

The movie adaptation of E L James' controversial, steamy best-seller arrives in cinemas just in time for Valentine's Day.

www.universalpictures.co.uk

16: **The Book of Life**

Produced by Guillermo del Toro and infused with Mexican folklore, this visually stunning animated movie arrives on DVD, Blu-ray and

3D Blu-ray today.

www.fox.co.uk

20: **The Bristol Show: Sound & Vision 2015**

Team HCC will be making tracks for Bristol's Marriot City Centre Hotel as the UK's largest hi-fi and home cinema show opens its doors for a three-day event.

www.bristolshow.co.uk

27: **Monsters: Dark Continent**

Get ready for another heady mix of political commentary and monster mayhem as this belated sequel to Gareth Edwards' 2010 micro-budget sci-fi flick stomps into UK cinemas.

www.vertigofilms.com

→ MARCH

02: **Nightcrawler**

In this noir-infused satire of modern TV journalism, Jake Gyllenhaal stars as a desperate young man who finds his calling in the cut-throat world of crime reporting. Pick it up on DVD and Blu-ray from today.

www.entertainmentone.co.uk

06: **Chappie**

Director Neill 'District 9' Blomkamp returns to cinemas with this tale of the world's first robot with an ability to think and feel for itself. Here's hoping it's more *Short Circuit 2*...

www.sonypictures.co.uk

09: **Horns**

Daniel Radcliffe takes the lead role in this screen adaptation of Joe Hill's supernatural thriller, which sets out today to conjure up some chills on DVD and BD.

www.lionsgatefilms.co.uk

12: **HCC #245**

The next issue of your favourite home cinema magazine hits the stands, packed with hardware tests, features, outspoken opinion and in-depth software reviews.

www.homecinemachoice.com

Crestron sends out a Pyng

New control system aims to make home automation more affordable

Crestron has been at the vanguard of home automation for many years as installers have readily adopted its integrated AV, lighting, security and heating control systems. It's premium, hard-wired stuff that has remained the preserve of customers with deep pockets, happy to fork out for a professional installer. Now Crestron is aiming for a wider market in the shape of Pyng, a more affordable, wireless-based control system consisting of a control hub that can operate up to 200 devices.

Wirelessly controlled components still require power and someone capable of installing them, plus the initial setup must be done by a pro. But once installed Pyng can be easily operated and, more importantly, reconfigured using iPhone and iPad apps (with an Android version in the works) so that the end user can create countless scenes for different activities, such as dining, chatting, watching TV, sleeping and going on holiday.

On sale in the US since late last year, Pyng is now available in the UK, and it can be seen in action at Crestron's showroom in the swanky Chelsea Design Centre. For a more in-depth look HCC, travelled to Crestron's Customer Experience Centre at its headquarters in New Jersey.

User-friendly control

The Pyng app is free while the hub itself costs £570, but any initial investment would certainly exceed £1,000 once customers have selected components such as a dimmer or two, a thermostat and an on-wall keypad (essential backup for those times when the iPad goes AWOL or runs out of juice).

Crestron manufactures its own wireless lights, thermostats and shades, the latter of which come in a range of appealing fabrics and have impressively quiet motors. Pyng works seamlessly with these devices, plus it can control third-party security systems including Yale locks (which are battery-



Marcus Simmons: 'People can't resist pressing buttons just for the sake of it... they may well blame the cat'

operated to be less of a hassle to install and immune to power cuts).

At present the system can't operate AV gear without the use of an additional processor,

but according to centre manager Marcus Simmons integration with audio and video components are slated for this year, 'probably by the Summer.'

App-based remote controls can be hit and miss in terms of user-friendliness, but the Pyng app certainly looks the business. We found it a pleasure to create bespoke lighting scenes.

Particularly impressive is the way that as soon as any changes are made they get implemented automatically, with no requirement to store or save. However, such an immediate response has its pitfalls, and Simmons tells us there is a danger in allowing users to alter the settings: 'People can't resist pressing buttons just for the sake of it and we know that customers can screw up their settings,' he admitted. 'They may well blame the cat.'

As a safety net Crestron keeps a saved version of the installer's settings in the cloud, which can be reinstalled remotely.

Legacy Crestron systems can be easily adapted to work with Pyng, so is there a danger of Crestron cannibalising its own customer base by offering a more affordable alternative to a fully-serviced system? No so, says Simmons, arguing that dealer costs are much lower too and dealers should see this as an opportunity to chase new customers.



Home automation goes mass-market with Crestron's more affordable, app-controlled Pyng control hub

This month's top 10 news stories in handy, bite-sized chunks...



1 Meridian partners with Tidal
Meridian Audio has joined forces with Tidal to bring the CD-quality music streaming service to its Sooloos digital media system. Meridian CEO John Buchanan says the partnership is significant for his company, as Meridian 'prides itself in delivering a super-quality digital signal throughout the path from the studio to the home, using advanced digital signal processing technologies.'

2 Shares surge
Shares in Netflix jumped 12 per cent in January after the company announced better-than-expected fourth quarter earnings. Netflix made \$83m in the last three months of 2014, compared to \$48m for the same period of the previous year. It has put this down to a rapid growth in international subscriptions, which have risen to 18.28m outside its US homeland.

3 TalkTalk takes Blinkbox
Tesco has sold both its online video service Blinkbox and broadband business to telecom group TalkTalk in a deal worth around £5m. The sale was undertaken as part of the struggling supermarket chain's ongoing turnaround strategy.

4 BBC Three not for sale
TV production companies Hat Trick and Avalon have been informed that BBC Three 'is not for sale' after approaching the Corporation about the possibility of buying the channel to prevent it going online-only. The two companies said that if successful they would keep BBC Three on digital TV platforms and increase its programme budget from £81m to £100m per year.

5 HMV takes top spot
HMV claims that it overtook Amazon to become the UK's number one retailer for physical entertainment products in the two weeks leading up to Christmas. 'HMV has captured more and more market share in a year when major new movie releases have been scarce and there have only been a few major album successes,' gloated Hilco Chief Executive Paul McGowan.

6 Amazon thinks big (screen)
Following its successful foray into original TV programming, Amazon has now set its sights on cinema screens. Amazon Original Movies plans to produce and acquire up to 12 films per year for release in cinemas before making them available on its Prime Instant Video service as soon as four weeks later. 'We hope this programme will also benefit filmmakers, who too often struggle to mount fresh and daring stories that deserve an audience,' says Amazon.

7 Will Sony offload TV division?
Sony's TV division may have had a strong showing at this year's CES (see p21), but that doesn't mean that its future is totally secure. Reuters claims that Sony CEO Kazuo Hirai is open to the idea of selling the company's TV and mobile phone businesses if it helps the beleaguered Japanese tech giant cut some of its losses.

8 Digital grows
Early reports from the BVA (British Video Association) show that spending on digital downloads enjoyed a 25 per cent surge during 2014. But don't forget DVD and BD, which still accounted for 89 per cent of retail sales.

9 LG hit by factory deaths
LG Display was forced to halt an OLED production line at a factory in South Korea due to the deaths of two workers following a nitrogen gas leak in January. The country's labour ministry insisted that production be stopped in order to allow authorities to investigate the accident.

10 Say 'Halo' to new UK label
There's a new player on the anime scene in the UK. Animatsu Entertainment Ltd will release its first title on Digital, DVD and Blu-ray on March 15 – although it won't actually be an anime release. *Halo: Nightfall* is the live-action sequel to last year's hit *Halo: Forward into Dawn* and is being released in conjunction with Anchor Bay. Animatsu has also confirmed plans to release eight new anime shows including *Akame Ga Kill* (pictured below), *Gatchaman Crowds* and *Blade & Soul*.



Animatsu hopes to carve itself a slice of the UK anime market

PREMIERE

What's happening in the world of TV and films...

Daredevil on demand

Subscription-based video-on-demand specialist Netflix has confirmed that all 13 episodes of its hotly-anticipated Marvel superhero series *Daredevil* will be available to stream, globally, from April 10.

Better 'later' than never



28 Days Later writer Alex Garland has revealed that he has spoken to Danny Boyle and producer Andrew Macdonald about a belated third film in the franchise. 'It's more likely to be *28 Months* than *28 Years*,' he said, '*28 Decades* is probably taking the p***.'

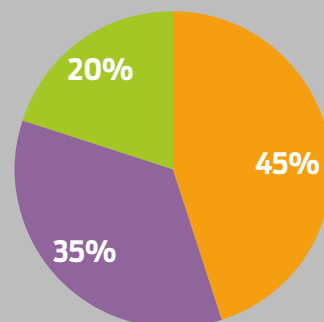
From cars to the stars

Rumours that Justin Lin would be making a return to the *Fast & Furious* universe to helm another instalment in the fast car franchise have been quashed. Instead, Lin (who directed the third, fourth, fifth and sixth *F&F* movies) is stepping into the shoes vacated by J.J. Abrams to oversee the third film in the rebooted *Star Trek* series.

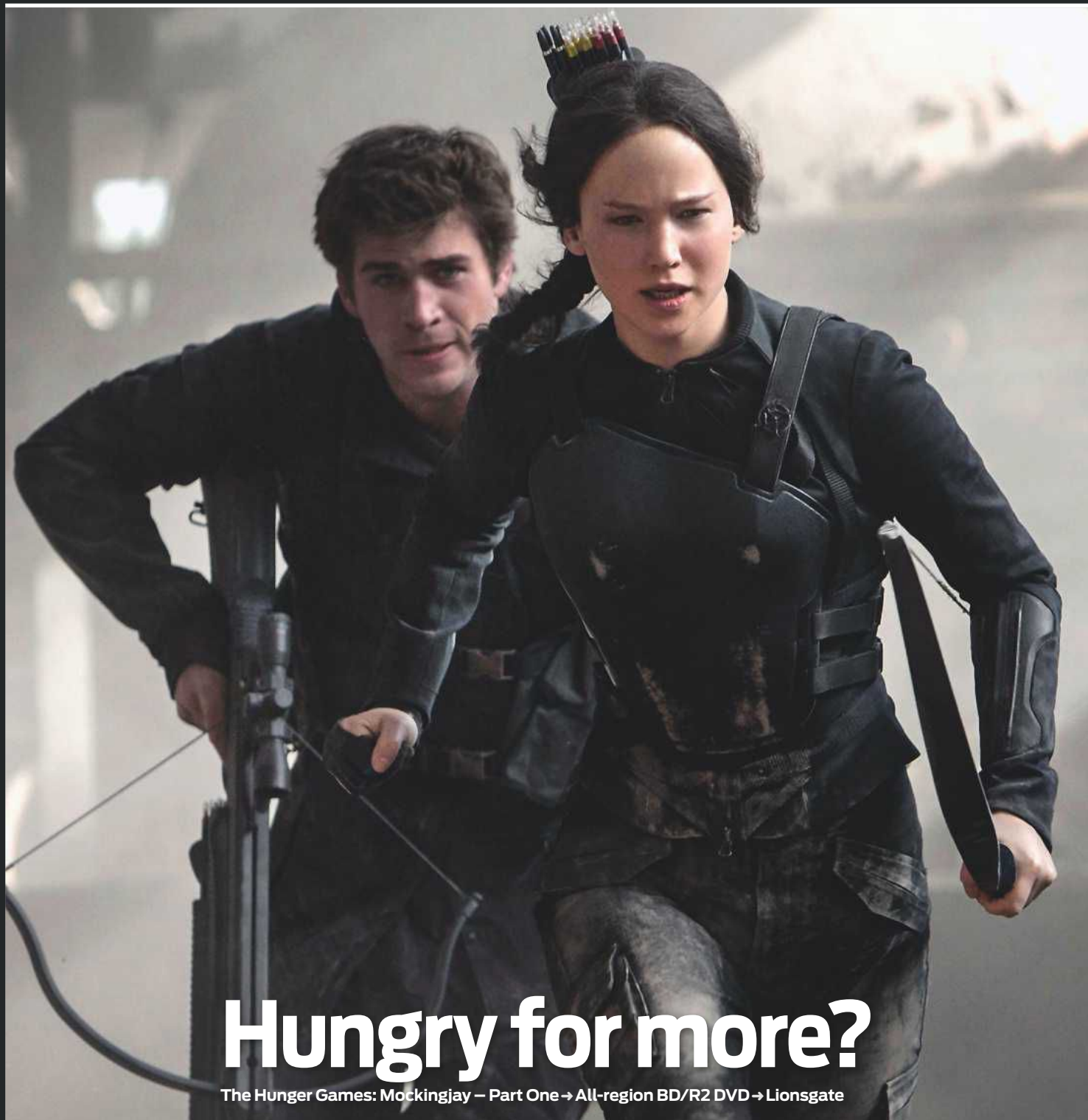
WE ASKED...

Are you excited by the advent of High Dynamic Range on 4K/UHD TVs?

- Yes!
- No!
- Never heard of it...



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Hungry for more?

The Hunger Games: Mockingjay – Part One → All-region BD/R2 DVD → Lionsgate

It's the beginning of the end for the über-popular *Hunger Games* franchise (starring Jennifer Lawrence as Katniss Everdeen), with the first part of the two-film finale making its BD and DVD debut on March 16. The former sounds particularly tasty – not

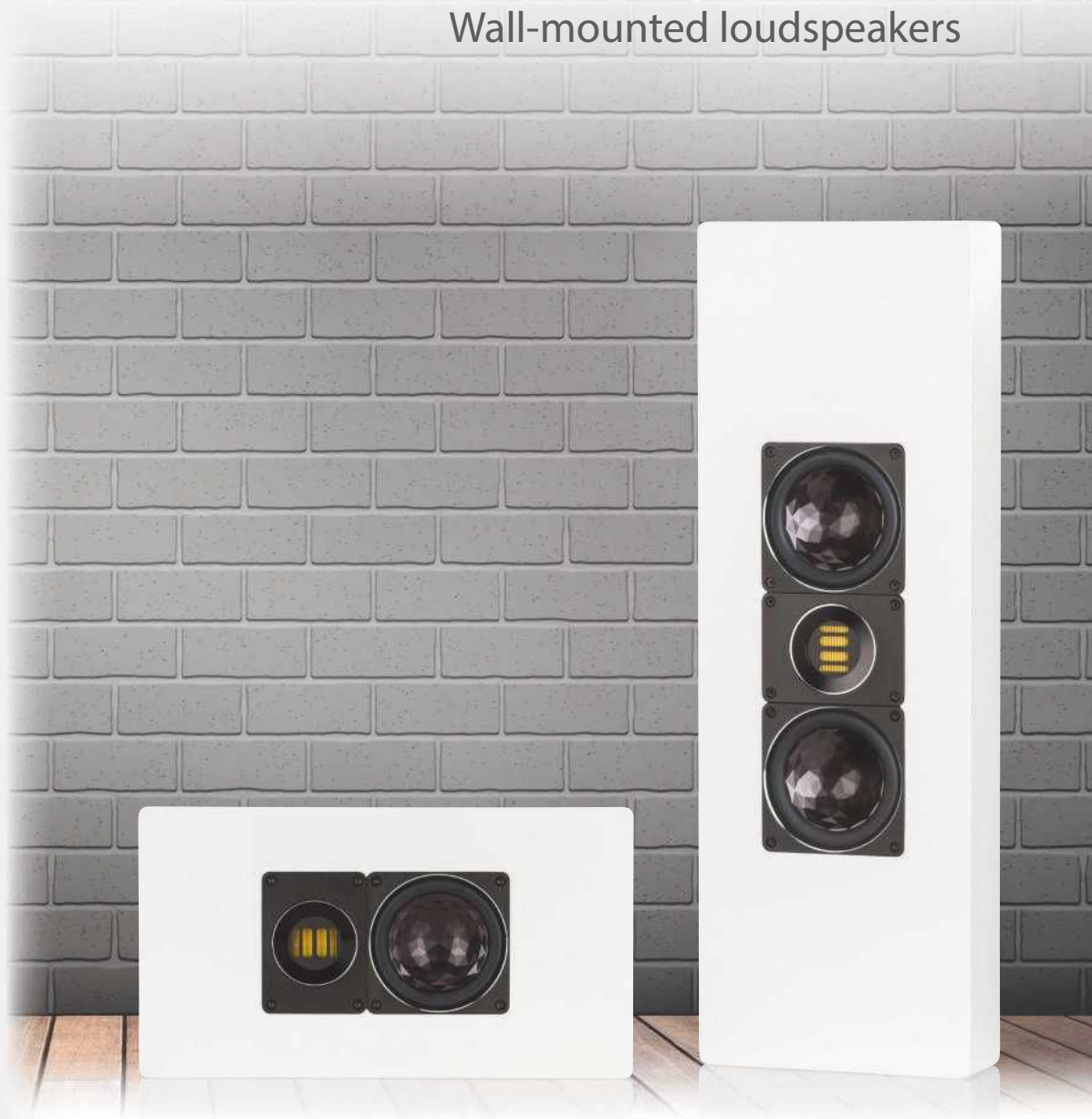
only can fans look forward to the usual bumper batch of extras (including an eight-part *Making of...* documentary, director's commentary and a tribute to the late Philip Seymour Hoffman), it also promises to be Lionsgate's second Dolby Atmos release.



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Raising THE STAKES

AV TAKES CENTRE STAGE AT CES 2015



WELCOME to Fabulous VEGAS NEVADA

THE IFA SHOW, which takes place in Berlin every September, may claim more visitors through its doors, but CES is undoubtedly bigger. The electronics expo held in Las Vegas each year since 1978 has grown to cover practically every aspect of modern technology, from smart cars and home appliances to wearables, health and, of course, AV. In 2015, over 3,600 exhibitors launched more than 20,000 products, with the demand for booth space so high that multiple venues were employed. For five days, Sin City was taken over by tech.

The good news is that home cinema hardware was very much at the centre of the CES excitement. Clearly, the AV industry is building up a head of steam toward a new era, with object-based audio, High Dynamic Range and 4K technologies potentially dovetailing together into a new way of enjoying movies in your media room. Not since the launch of Blu-ray and HD DVD has a step-change in AV quality felt so tangibly close.

Of course, the road to such home cinema nirvana isn't smooth. It never is. If you were to take one thing away from CES 2015, it should be that even though the major brands agree that improved standards are necessary – and achievable – they don't seem to be in agreement as to what those standards might actually be. Thought format wars were over? Think again...



Last year's CES gave us curved TVs and little else – this year witnessed HDR displays, a new Smart TV war, a Dolby Atmos rival from DTS and the world's first prototype 4K BD spinner. Steve May and Mark Craven report on all the gambles made in Las Vegas...

LG steps up OLED TV offensive

Another year, another push by LG regarding OLED displays, with the TV titan announcing a seven-strong lineup for 2015, featuring both flat and curved models, and even a flexible option. Thankfully, LG has made the common sense decision to ditch Full HD resolutions. All models (there will be 55in, 65in and 77in variants) will use 4K panels.

The WRGB screens offer Harman/Kardon-powered speakers, Optimised True Colour processing and WebOS 2.0 Smart skills. No pricing has yet been announced, and we don't expect the screens to hit UK shops until the Autumn.

LG US executive Tim Alessi highlighted what the brand believes are OLED's strengths compared to regular LED-lit LCD screens, with the most important being its 'perfect black' talent. 'OLED is the pinnacle of TV hardware and we have it right now. With an LED TV there is always measurable light, even when dimming technology is employed,' he declared.

Alessi revealed LG expects 1,000,000 OLED units to be sold globally by 2016, and that panel producer LG Display has invested \$600m to increase production capacity four-fold.

OLED's black level superiority, says LG, makes its OLED models the perfect partners for incoming HDR (High Dynamic Range) content. Other brands disagree – see p24.

Away from OLED, LG has also

confirmed another huge lineup of LED TVs, with around 60 per cent being 4K models. Sizing ranges from 43in to a mammoth 105in.

OLED's 'perfect black' talent makes it ripe for HDR, says LG



LG's booth greeted visitors with an OLED TV wall



LG's 'Smart' DJ gear was on hand for when flatscreen fatigue set in

Panasonic shows off world's first 4K Blu-ray player



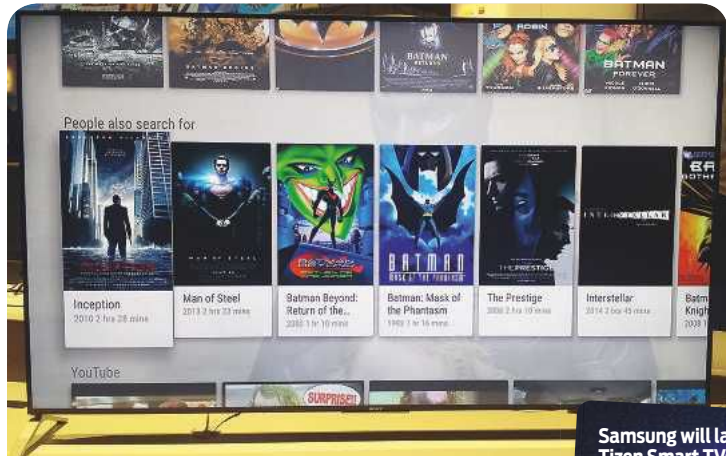
Panasonic gave AV hedz reason to cheer during its CES press conference by unveiling a prototype 4K BD spinner. The unnamed deck (which sports a similar chassis design to last year's DMP-BDT700) claims support for 4K resolution video playback via HEVC at up to 100Mb/s, High Dynamic Range content and the BT.2020 colour space.

While Panasonic does admit that the standards being worked on by the Blu-ray Disc Association (BDA) have not been finalised and that its product may change, it still wanted to batter home the 4K disc message: 'This marks a major advance in picture quality over current Blu-ray players, and paves the way towards allowing consumers to enjoy the crisp, true-to-life quality of amazing 4K Ultra HD content.'

The BDA, meanwhile, has firmed up some more details of the specification ahead of an expected Spring announcement. Notably, the format will be called Ultra HD Blu-ray (no mention of 4K) and players must be backwards compatible, allowing DVD and Blu-ray playback.

Is this what your next Blu-ray player will look like?

Smart TV evolves with Android, Firefox and more



Samsung will launch its Tizen Smart TVs this year

CES saw a complete overhaul of Smart TV systems by Panasonic, Samsung and Sony. Seemingly spurred into action by the popularity of LG's WebOS platform, these TV marques ushered in new interfaces majoring on simplified design and user interaction.

Sony unveiled a range of Android TVs (top left), signalling a tie-in with Google's popular ecosystem. For couch potatoes, the most obvious benefits we discerned from initial demos are built-in Google Chromecast for swift content sharing from your phone/tablet/laptop, impressive voice search capabilities, Google Play Store integration and a much more agreeable UI than the one Sony offered last year. Meanwhile, Philips confirmed that all of its 4K TVs, and most of the rest of its range, will be Android-powered in 2015.

Samsung, a major hardware partner where Android is concerned, has instead chosen to launch its own Tizen OS across TV, home entertainment and mobile markets. Our first glimpse of a Tizen-powered Smart TV showed it to be a far simpler experience than the

brand's current, multi-screen offering, with similar traits to WebOS, including a row of moveable icons along the bottom of the home screen and a non-discriminatory approach to content – everything becomes just another app. Other Tizen tricks aimed at streamlining your digital

lifestyle are automatic syncing with compatible mobile devices via Bluetooth BLE and broadcast streaming even when the TV is off.

As for Panasonic, it has moved on from the My Home Screen platform to a new version powered by Firefox OS. Again, this takes a stripped-back approach, with an initial home screen featuring just a trio of large, round icons for live TV, devices and apps. Users can pin their favourite other apps here. Sharing 'net content to the display can be done via any device running a Firefox browser, and the top-flight CX850 model supports voice search without using a remote.

Based on these initial showings, Smart TV is shaping up nicely...

Sony debuts Hi-Res Audio TV

The brand that last year made forward-facing TV speakers trendy again took the wraps off the world's first Hi-Res Audio TVs, capable of 96kHz/24-bit audio performance. And while you may think that HRA TV is marketing hype, there's substance to Sony's reveal. Both its new X9300C range and X9400C flagship will champion superior sonics, achieved through hardware and software refinements. Tweeters have been tweaked to deliver higher frequencies, and the brand's magnetic fluid speaker tech used for the subwoofers for the first time. Sony has also built in its proprietary DSEE HX audio upscaling, first developed for its HRA Walkmans. This means any audio source, be it TV, streaming content or even console games, benefits from a frequency interpolation boost that gives 'near hi-res audio quality'. HRA TVs, when acting as a media player, will also play back hi-res FLAC and WAV audio files.

On early evidence, the models seem to make soundbars redundant. A demo of an X9300C in full party mode was extremely impressive, if only for its prodigious volume and slam – more considered analysis will come when we get our hands on a sample. Of course, any attempt to improve the quality of TV sound gets two thumbs up from us.





REL unleashes 1,000W quad-driver subwoofer

British bass stalwart REL decamped to CES to ruffle some feathers, introducing a new high-spec subwoofer amidst the usual two-channel esoterica of the Venetian Hotel's demo suites. Despite only hearing it beefing up a stereo music presentation, the 212SE is clearly a little bit special. Intended for largescale rooms/systems, this 81cm-high woofer uses dual 12in front-firing bass drivers, supplemented by another pair of 12in passive radiators – one down-firing, the other around the back. Onboard power is rated at 1,000W RMS, 1,700W peak, and REL says it will reach down to 21Hz (-6dB). 'For the full-blown theatre maven, they

will be forgiven if they think they have died and gone to low bass heaven,' we're told. Design-wise, the 212SE shares many of the style flourishes of the rest of REL's stable, down to the carry handles and chunky silver feet. And, like other REL subs, it's compatible with the company's LongBow wireless transmitter technology.

Also in the REL room was the new Ti range. These more compact woofers (in 10in and 8in flavours) see the original T series models given a revamp, with stiffened drivers, greater cabinet volume and the option of wireless connectivity.



Sony adds PS gaming to BD decks

Respect due to Sony for coming up with a reason to still be excited about a Full HD Blu-ray player – its new BDP range (BDP-S6500, BDP-S5500, BDP-S3500) offers the ability to play PS3 (and older) games via the finally-out-of-Beta PlayStation Now streaming platform, with the simple addition of a Dual Shock controller. Obviously, a healthy internet connection is required, and image quality seems to take a hit compared to spinning games from a disc, but it's a welcome way of adding gaming to a setup without picking up a new console. However, the UK launch of PlayStation Now hasn't been confirmed. 'If and when PlayStation decide to launch the app in the UK it will be available on BDP via firmware update. But it's all down to PlayStation,' a Sony source told us. Fingers crossed, eh?

Arcam goes Solo with movies, again

It's over ten years since Arcam launched its Solo Movie 5.1, a premium DVD/CD player-cum-AV receiver that put most other one-box systems to shame. The brand has returned to the concept with a new Solo Movie that again claims to deliver audiophile sensibilities to the convergence market.

Weighing in at 10kg, this AV slab uses multi-voltage Class G amplification (also found in Arcam's high-end AVR750) to claim 5 x 60W (8 Ohms) of grunt to its speaker terminals. Generous connectivity includes four HDMI inputs for additional sources beyond the onboard BD/DVD/CD/SACD drive, plus Ethernet, Wi-Fi, aptX Bluetooth and digital and analogue audio. DTS-HD and Dolby TrueHD are present and correct. 'We thought the time was right to bring Solo Movie back,' MD Charlie Brennan told HCC. Pricing is £2,000. >





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Shining a light on HDR

4K TVs inevitably dominated CES 2015, although the big buzz wasn't so much about their resolution as their HDR (High Dynamic Range) future. HDR displays will eventually deliver extremely bright peak whites (measured in Nits), without compromising blacks and shadow detail, yet at CES there was no clear consensus on how bright to go. There are plenty of brands vying for HDR leadership (Dolby, Philips, the BBC, everyone else) but no standard has been rubber-stamped.

The average bright LED TV glares at around 400/500 Nits. The starting point for HDR is likely to be around 700 Nits, with 1,000 Nits the sweet point. Of course, there are advocates for much more than that – up to 10,000 Nits – but the practicalities of panel cooling and legal ramifications regarding power consumption are likely to put the kibosh on such illumination.

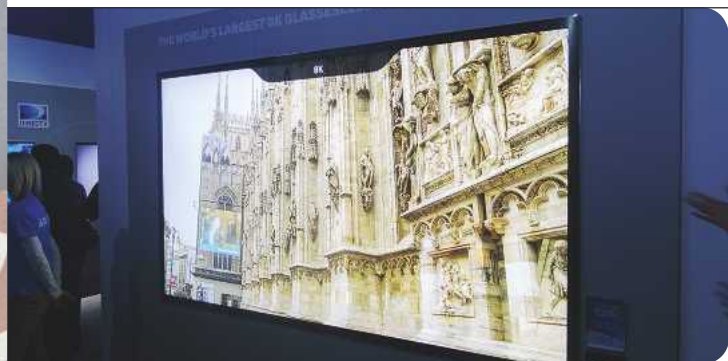
'If there's no industry agreement, we'll probably end up following whatever Netflix does,' I was told, and that's likely to be how it plays out. Netflix is currently chomping at the bit to roll with HDR, as it'll be priced at a premium. 1,000 Nits seems to be its goal. Sony had a great-looking HDR prototype (a modified 2015 X94C screen) running test footage provided by Netflix – remastered sequences from historical drama *Marco Polo*. 'According to our Japanese engineers, we will be introducing HDR on some TVs this year,' Sony's Mark Whiteman confided. 'But we have no specific info yet.'

There was more proto HDR to be seen around CES, if you knew where to look. LG had an HDR OLED display hidden behind the scenes, but could say little about it, while Panasonic invited visitors to peak at a dazzling HDR screen in a darkened sideshow booth. And at an exclusive behind-the-scenes workshop, Samsung was showing remastered in HDR clips of Ridley Scott's *Exodus: Gods and Kings* on an incoming SUHD screen. The quality of the image was phenomenal, boasting extraordinary dynamics.

Currently movies are generally mastered on dull 100 Nit screens that conform to the aged, and equally dull, Rec709 standard. Mastering movies for an HDR display represents a spectacular leap forward in picture quality.



Sony ran an HDR screen next to a conventional LED model, with a reel including remastered sequences from Netflix's *Marco Polo* – complete with HDR logo...



Samsung does glasses-free 3D!

For some, a 3D display that delivers pristine stereoscopic images without the need to don goggles is the ultimate dream. Yet, judging by a prototype 110in SUHD model in the Samsung booth, the tech still needs work. Despite offering numerable viewing angles, it was hard to find a sweet spot (amidst a sea of gawping show-goers, too) that didn't serve up distracting picture flaws, such as shifts in focus and weird dimension wobbles. Glasses-free 3D still seems to require you to keep your head rock-steady. And it didn't help that Samsung's demo was running on an 8K panel, with content switching being 3D and sharp-as-a-razor 2D 8K footage. On this showing, we know which one we'd rather watch.

Cambridge Audio revamps AVR line

Hitting stores around April will be a duo of new home cinema receivers from Cambridge Audio, engineered with a 'sound first' ethos and Class A/B design. Both the CRX120 and CRX200 are 7.2 models (offering 120W and 200W-per channel respectively) with support for HDCP 2.2 (as well as 4K upscaling), smoothing the path for Ultra HD screen owners. Dolby Atmos and DTS:X are absent.

As well as catering for movie buffs, the receivers feature Cambridge Audio's StreamMagic music streaming tech (as found in its CXN network music player), providing playback of 'all popular digital music formats' up to 24-bit/192kHz FLAC, ALAC and WAV from networked devices. Ethernet and Wi-Fi are offered – Bluetooth is an optional extra. Pricing is £1,500 for the CRX120, £2,000 for the CRX200.





DTS:X 3D audio to challenge Dolby Atmos

The battle to dominate next-gen multichannel audio revved up at CES, with long-time Dolby rival DTS offering a sneak earful of its upcoming DTS:X sound system. Like Dolby Atmos, DTS:X is object-based, rather than channel-based, which means ultra precise sonic imaging.

The company refuses to reveal much detail before an official DTS:X March launch, but Tim Giblin, Senior Manager for Consumer Marketing, told *HCC* that DTS had secured support from key AV and hi-fi brands, including Onkyo, Yamaha, Denon and Pioneer, as well as esoteric marques such as Krell, Steinway Lyngdorf and Trinnov Audio. Decoding DSP chips will be produced by Cirrus Logic, Analog Devices and Texas Instruments. It's not yet clear if existing AVRs will be firmware updateable, and you can expect to see DTS:X implemented in soundbars, too.

Our preview was in a predominantly white room, with no surround speakers visible. The only enclosures on show hung from the ceiling; we counted eight. The company wouldn't divulge the overall speaker config, which leads us to believe the system will be scalable, using the brand's MDA (Multi Dimensional Audio) technology as a backbone.

Giblin promised that deploying sound in an object-based multichannel environment will usher in revolutionary functionality. If implemented by a sports broadcaster, for example, viewers could choose to emphasise the section of crowd that reflected their team allegiance.

But it's films that matter most to us, and given that DTS soundtracks already dominate Blu-ray, would you be surprised if DTS:X was able to muscle out Dolby Atmos, too?

Internet of Things

It's a thing, apparently – but should you care?

The Internet of Things (IoT) is a clumsy term that you're going to have to get used to. Essentially, it's about connecting devices (from cars and TVs to wearables and your pet's microchip) via the internet to allow them to communicate. Suggested uses include smart home automation, health monitoring, traffic management and beyond.

In the opening CES keynote speech, Samsung president and CEO BK Yoon positioned his company as a key advocate of IoT but insisted that it will only reach its potential if it's based on an open standard. 'I'm making a promise that our IoT devices and products will be open. We will ensure that others can easily connect,' said Yoon. He also pledged that 90 per cent of Samsung products would be IoT-enabled by 2017 and all of them by 2020.

For home cinema, an open standard IoT could mean smart and automatic communication between all your AV gear, lighting, heating, etc — whatever the brand.

Panasonic courts THX approval on 4K flagship

With plasma no longer a going concern, Panasonic's top-of-the-range TVs now come LED-flavoured. The new CX850 series was unveiled during the company's CES conference and will debut with two models (a 55in and a 65in), using 4K-resolution glass and Studio Master Drive picture-enhancing wizardry to chase a THX 4K certified badge — at the time of writing such endorsement was 'pending.'

The newly-developed panel of the CX850s, as well as an improved LED backlight design and six-axis (RGBCMY) colour correction, enables Panasonic to claim a colour space that's 98 per cent of the DCI spec on the larger model. Elsewhere, local dimming works to improve black level response, while the Dynamic Range Remaster feature contributes toward peak brightness. Interestingly, the screens also make a push for the home integration market by virtue of compatibility with Control4's automation platform, via the Simple Device Discovery Protocol (SDDP).

Panasonic also announced three more 4K TV ranges for 2015 — CX800, CX650 and CX600. We'll know more about its full UK flatscreen plans after the company's European launch this month.

Showfloor news in brief

Blink-and-you'll-miss-'em stories from Las Vegas

Sony adds HDCP 2.2 to 2015 AV receivers



Going practically unnoticed in Sony's booth next to its array of flatscreens was a duo of new AVRs equipped with HDCP 2.2 chipper. The STR-DN1060 and STR-DN860 are due to arrive in Spring/Summer, and feature integrated Google Chromecast skills. No sign of Dolby Atmos, though...

Seiki goes first with Freeview Connect

Chinese telly brand Seiki raised a few eyebrows by announcing it will launch Freeview Connect flatscreens in the UK this year. They'll come in 32in, 40in and 50in sizes and arrive in the Autumn.

MHL is 8K-ready

The MHL (Mobile High-Definition Link) consortium announced a new specification that brings plenty of next-gen tricks to the smart device-to-TV AV connection standard. Called superMHL, it will introduce support for 8K video, HDR, Dolby Atmos and more.

SVS Primed for sub/sat



Better known for its hefty subs, SVS showcased a range of speakers, including some smallscale satellites. The Prime series, which also offers a centre enclosure, floorstanders and bookshelf models, is designed to be more living room-friendly than the company's previous Ultra line, but without sacrificing audio prowess, and uses FEA-optimised tweeter units and bespoke crossovers across the board.

Wolf Cinema demo steals the show

Fully-fledged home cinema demos are quite rare at CES, because they usually rely on cross-brand cooperation and require a lot of setup time/space to achieve an impressive result. However, visitors to the Wolf Cinema room were rewarded with a barnstorming example of high-end AV. Using a trio of REL subs and ELAC speakers, Oppo and RED players and T+A amplification/processing, in conjunction with a Wolf Cinema D-ILA-based projector and Screen Innovations Slate screen, it was the kind of multichannel demo it's hard to leave – particularly as they were using the lengthy firefight sequence from *Lone Survivor* (which is worth owning the BD for). Yet away from the surround imaging and tight bass, it was the use of bias lighting behind the 'zero edge' 2.35:1 PJ screen that really grabbed attention. An idea for your cinema room?



Onkyo loves heavy metal

Maiden Audio is the brand name of a new venture between the sonic noodlers at Onkyo and the heavy metal titans Iron Maiden. And that's all we can say at the moment, with Onkyo remaining tight-lipped ahead of a future launch. Still, the chance to get snapped next to a giant model of Iron Maiden's mascot Eddie is something HCC's Steve May simply can't turn down. And what's Eddie wearing on his head? Well, it's not a soundbar...



Philips remembers 5.1 audio exists!

A few years ago, affordable 5.1 systems were a fairly common occurrence at CES. This year, they were harder to find than a needle in a haystack. Philips did, however, remember that discrete multichannel sound is still a going concern and launched its Zenit range of speaker packages, which includes the CSS5530 5.1 iteration. This uses wireless surround channel speakers in conjunction with left/right/centre satellites and a wireless subwoofer. HDMI (including 4K passthrough) and Bluetooth connectivity are on the feature list. There's also the CSS5330, an alternative 3.1 version. Both systems will be available in stone grey and wood, or black and aluminium finishes ■





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MASTERS

of movies

First through DVD and now via Blu-ray, Eureka's Masters of Cinema label has aimed to furnish film fans with high-quality releases of classic titles. We spoke to Director of Production **Craig Keller** about the company's plans for 2015, sourcing new releases and its #100 Masters of Cinema Blu-ray, legendary Holocaust documentary *Shoah*

Congratulations on the release of the 100th title in the Masters of Cinema Blu-ray lineup. Was there ever any doubt that the range might not make it this far?

I wouldn't say there were doubts that the Series could reach the milestone of 100 releases within its Blu-ray line, but it wasn't at all clear several years back that Blu-ray as a format would pervade the mainstream to the extent that it has. That was back in the era when HD displays and Blu-ray players themselves were relatively pricey. Now you can purchase a decent player, either domestically or overseas, for something like thirty or forty quid. And cathode-ray-tube/rear-projection sets, for all intents and purposes, don't even exist anymore!

Was any extra thought put into deciding which film would feature the '#100' spine number or was it just treated as a regular release? And if it was a considered decision, what made *Shoah* the best candidate?

We knew that we'd be working on the Blu-ray set with *Shoah* and the accompanying films from around the time of Cannes 2013, and we finally solidified the inclusion of *The Last of the Unjust* this past festival – which I'm thrilled about because the release collects completely this cycle of Claude Lanzmann's work. So the timing worked out that, based on our schedule and number of acquisitions, *Shoah* (and *Four Films After Shoah*) would be close enough to that landmark "#100" spine number that we could reserve #100-104 specially for the release.

Additionally, there's some flexibility with the spine numbering; it doesn't adhere to a direct chronology of dates-of-publication, but rather we sometimes take into account whether or not a certain film we know is coming down the pike will create some kind of 'dialogue' sitting next to another movie with the next spine number...

As far as its having been a considered decision, it was something of a no-brainer: its epic scope, and the fact that it's one of the greatest films ever made, made it an easy choice.

Did *Shoah*'s nine-hour running time and 16mm origins present any technical challenges when it came to preparing the Blu-ray release?

The length of the film means that the quality-control process was extremely intensive. And throwing in the fact that there are four other films, one of which, *The Last of the Unjust*, runs nearly four hours on its own... It's a daunting undertaking.

Aside from that, there's the issue of the subtitles. Of course, they already existed for our previous DVD release of *Shoah*, but again, with four other films thrown in the mix, proofing them, making sure the spotting (the onscreen appearance and duration of

each line) is accurate, is a lot of work. QC inspector Michael Brooke did an above-and-beyond job working on this project.

Is there a criteria for a title appearing as part of the Masters of Cinema range? For example, what makes *Rapture* a 'Eureka Classic' title, but *Simon Killer* a 'Masters of Cinema' release?

To tell the truth, the line between Eureka Classics and Masters of Cinema is often pretty porous with some titles. We just make a judgment call or go with our gut. There's definitely an argument that could be made that something like *Rapture* or *Violent Saturday* could be MoC. But even if they don't wind up under the MoC label proper, we're really proud of those editions, too.

'We like to highlight new and interesting films... It's important to see cinema as a vital, living artform'

As for why *Simon Killer* is an MoC release – it's a great film by a director, Antonio Campos, who has a very interesting vision, and I think it's a perfect indicator of a certain moment in late-2000s/early-2010s cinema in terms of directorial aesthetic, concerns with interactivity and isolation, and its relationship, both in setting and its own production, to this era of globalisation.

Brady Corbet and Mati Diop are also excellent actors (and filmmakers in their own right) on the rise. And given the recent events in Paris, with the attacks on *Charlie Hebdo* and the kosher market, it's perhaps even more relevant than ever, with its examination of these 'exchanges' and 'circulations' that are taking place in the city of Paris. We like to highlight new and interesting films whenever our schedule allows. That means contemporary along with older films. Criterion does an excellent job providing a cross-section of this variety. It's important to see cinema as a vital, living artform. To contradict Lumière, I see the cinema as an invention with a future.

Do you hope that one day all the titles released in the MoC DVD range will make it to Blu-ray?

It's unlikely that all of the DVD series will eventually make it to Blu-ray; both for the reason that it could be decades before certain pictures are ever revisited by a laboratory for restoration, and because our licences for several titles have expired a while back. But I can say that there will be a fair amount that will get the upgrade to Blu-ray.

From *Das Cabinet Des Dr. Caligari* (main) to *The Last of the Unjust*, *Rapture* and *Simon Killer* (right), the Masters of Cinema and Eureka Classics labels are home to a diverse array of films





Faust, Die Nibelungen, Touch of Evil and Les Misérables have all been given the chance to shine on Blu-ray



The range has been one of the leading players in bringing silent films to Blu-ray. What is it about the format that makes it such a great home for silent films – and have you been surprised in any way by the reaction those titles have received?

I guess 'surprised' isn't the word, but delighted, definitely. The cinema began silently; the sheer number of innovations in the era from the 1890s up through the 1920s is staggering. And silent films retain an implicit quality of poetry, no matter how bad the film.

Blu-ray allows these films to be resurrected again in all their visual splendour, and not just languish in the, let's face it, popular collective conception that silent films are blurry, washed-out, the product of beat-up prints, jerky frame rate... I have to believe that anyone who sees our discs of *Cover Fidele*, or *Die Nibelungen*, or *Faust*, or *Das Cabinet Des Caligari*, can't help but be at least a little awestruck at the beauty of those restorations.

In the past you've done deals with the likes of Universal and Paramount, allowing you to license the likes of *Touch of Evil* and *If...* to the Masters of Cinema range. How approachable are the major studios to these kinds of licensing deals when it comes to back-catalogue titles?

It depends on the studio. We've cultivated relationships over the years, and I think we've done good work with their films, and expect to collaborate more in the future. The studios are transforming, and what would once be ancillary income (DVD and Blu-ray) is, within their corporate frameworks, seen as something of a loss-leader because they're not bringing in their own quotas for profit margins. That's certainly good for us, or Criterion, because we exult in being able to do substantive editions of these films.

We're sure there are many titles you'd love to be able to license, but if there were no restrictions is there one that stands above all others?

Rediscoveries of the uncut *Greed* [1924] and *The Magnificent Ambersons* [1942] would be up there... but this is highly, highly unlikely. Off the top of my head, if there was one release that I would pursue, given no restrictions, it would be the Stanley Kubrick films from *Lolita* up through *Eyes Wide Shut*.

We would take a very different approach to the way they've been previously handled. I saw that they're coming out on Blu-ray again, with nothing much having changed in the way they're being presented.

There's an opportunity to really go deep on those films, to discuss them intensely – or, to put it in Kubrick's own words when he'd joke about his hours-long telephone sessions, subject them to 'rigorous intercourse.' Those films are masterpieces,

and it would be terrific to show all the things that's going on in them; they're endlessly watchable. Especially, in my opinion, the final four: *Barry Lyndon*, *The Shining*, *Full Metal Jacket* and *Eyes Wide Shut*. They're as inexhaustible as [Hitchcock's] *Vertigo*.

You've utilised Steelbook packaging on select titles like *Nosferatu* and *Metropolis*, as well as producing larger boxsets like *Martin Scorsese Presents: World Cinema Project Vol. 1*. What are the benefits and/or problems when taking these alternate approaches to releases?

It's just nice to have a beautiful or well-made object in your hands sometimes. I think this is one reason why vinyl is experiencing such a massive resurgence. It's relatively straightforward to design for either format, but the only thing that gets tricky with the boxsets is having to lock in a definite page-count for the perfect-bound book, so that the printer can provide the precise templates for the book's spine, and the dimensions of the box. So even while you're still editing the booklet or discovering new content, you've got to adhere to the page count that you've given the heads-up on. Both SteelBooks and boxsets generally require a greater lead time as well.

Does Eureka have an eye on an eventual 4K Blu-ray standard? Are you currently working with 4K scans?

There have been 4K restorations on some of our titles (e.g., *Les Misérables* [1934] recently), but the masters we receive are in the resolution appropriate to Blu-ray, 1080p. I feel like we're only just getting momentum on the Blu-ray format as it stands. In my mind, if 4K really wants to shine, the films have to be projected on a screen.

Does this mean eventually we'll all have a screening room in our homes? I doubt it. That said, I have taken a look at the Apple iMacs with 5K Retina Display, and they are a thing of beauty. It's also a screen that your face is only maybe a foot and a half away from when you're using it...

COMING ATTRACTIONS

Eureka has more HD treats in store for film buffs...



Next up for the Masters of Cinema Blu-ray range is Elia Kazan's 1960 drama *Wild River*, which is due to hit shelves on February 23. Making its UK hi-def debut as part of the Eureka Classics range at the same time is Robert Mulligan's eerie 1972 Gothic horror *The Other*, which is reviewed on p103 of this very issue.

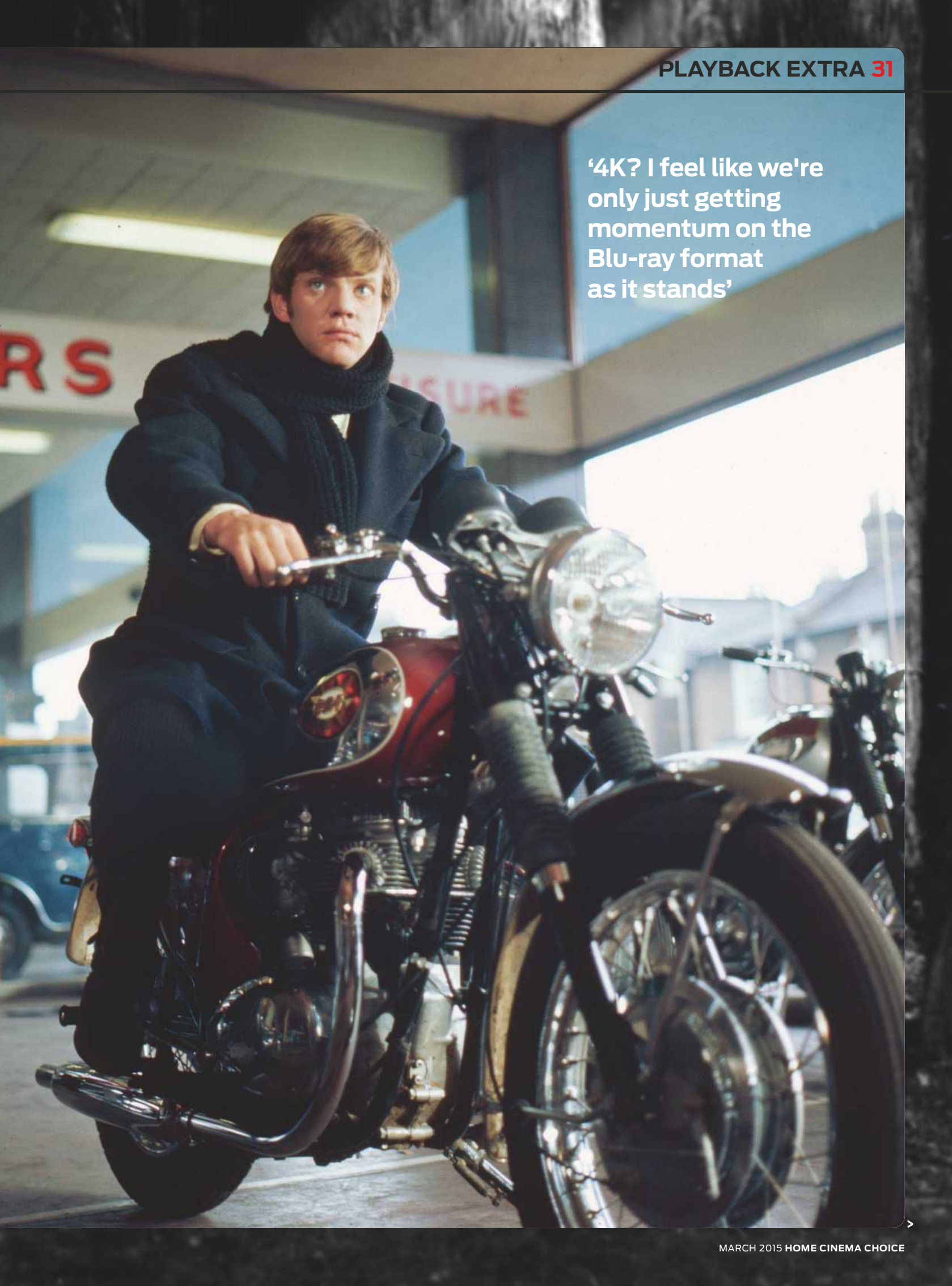
Anthony Mann's acclaimed *Man of the West* (pictured above) makes its world Blu-ray debut as part of the Masters of Cinema series the following month. Originally due for release in February, it has now been pushed back to March 23.

March 30 finds Raymond Bernard's 1932 war film *Wooden Crosses* joining the MoC line-up, where it will be joined in the coming months by Sydney Lumet's *The Offence* and Federico Fellini's *Satyricon* (pictured below) – the latter based on a new 4K digital restoration.



'Kubrick's films deserve the MoC treatment, maggot!'

'4K? I feel like we're only just getting momentum on the Blu-ray format as it stands'





Audrey Hepburn hides from the fashion police in *Two for the Road*, recently added to the Masters of Cinema range

How do you respond to claims that physical media platforms like Blu-ray and DVD are dead and that consumer focus is on video-on-demand and streaming services?

I would respond by saying they're no more dead than physical books, vinyl LPs, etc. Streaming is here, but there's no unified platform, and everyone

is still figuring it out. The vagaries of presentation are such that there's virtually no guiding curatorial intelligence or coherent user-interfaces; most so-called Smart TVs are not that smart when it comes to user experience (you could make around 80 button-clicks on your remote before you play the movie you want to watch); and contracts/licencing/

royalties are, relative to physical, not that lucrative for the parties involved, unless you're going way out on a 'long tail'. Still, you always want to make sure you hold the digital rights on your licences, for fairly obvious reasons.

As for truly independent films that make it to streaming platforms, the artists/producers involved can be pretty much guaranteed they'll see pennies, if that — à la Spotify and artists who might enjoy only a small audience. It's unfortunate.

Finally, can you give our readers any hints as to what collectors can look forward to from the Masters of Cinema and Eureka Classics line-ups during 2015?

We've announced most of our Q1 lineup (see *Coming Attractions* on p30), but there's an insane amount of releases coming down the line, from all over the globe and representing every time period. There's also a project that we hope to get out there for the end of the year, but I can't speak about it just yet. 2015 should be really interesting... ■



Powerful. Horrifying. Unforgettable

Claude Lanzmann's Holocaust epic remains a milestone in documentary cinema

→ SHOAH (AND FOUR FILMS AFTER SHOAH)

French filmmaker Claude Lanzmann's *Shoah* is a fascinating and horrifying account of the Nazi's 'Final Solution'. Shot over the course of 12 years, as Lanzmann travelled the globe looking for Holocaust survivors, this nine-and-a-half-hour film (divided into two parts — *First Era* and *Second Era* — and spread across two discs here) interviews concentration camp inmates, eyewitnesses and even former SS commandants, as well as visiting several Holocaust sites across Poland. The result is truly extraordinary and highly recommended.

Picture: The foundation of this hi-def presentation of *Shoah* is a 2K restoration (based on a 4K digital scan of the original 16mm negatives) undertaken at the L'Immagine Ritrovata laboratory in Bologna.

Given the limitations of the source, the AVC-encoded 1.37:1 1080p encode holds up very well indeed. Detailing is consistent, colours are rich (with none of the green tint that affected Criterion's 2013 US release) and the dense grain is handled brilliantly, ensuring that the image retains an authentically film-like texture.

Audio: We've no complaints about the LPCM mono soundtrack either. Admittedly, the track's almost exclusive focus on dialogue reproduction means that it doesn't offer much for audiophiles to sink their teeth into. But, as with the picture, the most important thing is that there's not a trace of any damage or distortion on the track.

Extras: As the title of Eureka's Blu-ray release indicates, it not only includes *Shoah*, but also four



other films Lanzmann created from additional footage shot for, but ultimately not used in, that documentary.

A Visitor from the Living (68 minutes) sees former leader of the International Committee of the Red Cross Maurice Rossell discuss the living conditions within the 'model ghetto' town of Theresienstadt. Meanwhile, *Sobibór, October 14, 1943, 4 P.M.* (102 minutes) is a lengthy interview with Yehuda Lerner, who took part in an uprising at the Sobibór concentration camp.

Also included are *The Karski Report* (49 minutes), featuring Polish underground member Jan Karski, and *The Last of the Unjust* (219 minutes) — which mixes a series of interviews with former Vienna Chief Rabbi Benjamin Marmelstein recorded in 1975 with Claude Lanzmann's return to Theresienstadt in 2012.

And if you're not exhausted after all that, there's hefty 300-page book of essays to peruse.



HCC VERDICT

Shoah (and Four Films After Shoah)

→ Eureka! Masters of Cinema

→ Region B BD → £70 Approx

WE SAY: An incredible Blu-ray boxset for a landmark in cinema

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



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Steve May, Home Cinema Choice, December 2014



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Best cellar?

Mark Craven marvels at this stylish subterranean cinema room



KIT CHECKLIST

KALEIDESCAPE: Cinema One movie server
MARANTZ: SR6006 AV receiver;
Blu-ray player
BOWERS & WILKINS: PVID subwoofer;
3 x B&W CWM7.3 three-way in-wall speakers;
2 x B&W M-1 satellite speakers
JVC: JVC DLA-X30WE projector
SCREEN RESEARCH: Motorized projector
screen
APPLE: Apple TV
SKY: Sky+HD receiver
CONTROL 4: Remote/processor
(and iPad app)
LUTRON: Grafik Eye controller



The cellar was dug out to increase the available space

THIS MODERN-LOOKING MEDIA room is actually below ground, hewn from the unused cellar of a London townhouse by professional installers Finite Solutions. The company was asked to create a space that could be used for music listening, relaxation and – of course – bigscreen movie action. It set to work, first digging out the cellar to provide more space for what has turned out to be a very eye-catching setup.

The owner, while keen to enjoy the benefits of home cinema, didn't want the associated hardware and projector screen to upset the décor, so drop-down options for both JVC projector and Screen Research screen were specified over fixed installations, although the high ceiling meant bespoke solutions were required. All the speakers (from Bowers & Wilkins) are fitted in-wall or in-ceiling, and source components are racked away in an almost invisible cupboard space hidden in the curved wall corner. The opposite corner shields the spiral staircase from view.

Other requirements were for the largest screen size possible – hence the use of a projector rather than a flatscreen TV – and plenty of media options. For the latter, a Sky+HD box, Apple TV, Marantz Blu-ray player and Kaleidescape Cinema One movie server are all plumbed in. For music, another key aspect of the room, there's Sonos hardware.

'The picture quality is excellent,' reveals the happy owner. 'The screen is nice and big and really looks the part once it has extended down from the ceiling. Music sounds great on the system and Sonos makes it so simple to find what I want to listen to.' We're told movie nights with friends and family are a regular occurrence, and sporting events on the bigscreen are a hit, too.

Hot chocolate

As you can see from the images, lighting and aesthetics were also high on the list of demands. The chocolate/grey colour scheme obviously packs style, but brings performance benefits as well. The fabric wall covering has been chosen to help dampen the room acoustically, and provide a non-reflective surface to ensure the largescreen visuals aren't marred by stray ambient light.

Wall lights, down-lighters, up-lighters and strip LEDs are all used in the lighting design, although the ceiling-installed 'light halo' is undoubtedly the *pièce de résistance*. The owner can use the room's Lutron Grafik Eye controller to adjust the colour of this illumination showpiece, and choose from his various preset colour scenes. Light management is either via an on-wall keypad or the Control4 interface on the handset or the owner's iPad. Control4 is also used for simplified, user-friendly operation of the AV electronics.

Right, time to get digging...





INSTALL INFO

A ILLUMINATING IDEA

The owner was keen to have eye-catching lighting effects, including this spectacular ceiling-mounted 'light halo' which can change colour to suit the mood. Elsewhere, wall lights, down-lighters and up-lighters provide plenty of options

B ACHTUNG BABY

Album cover art graces one of the walls; this room is also regularly used for listening to music via a Sonos setup

C MORE THAN A LICK OF PAINT

The cinema room's walls are finished in a non-reflective grey fabric wall covering, chosen to both dampen the space for an improved sound quality, and to limit ambient light reflection

D HIDDEN AUDIO

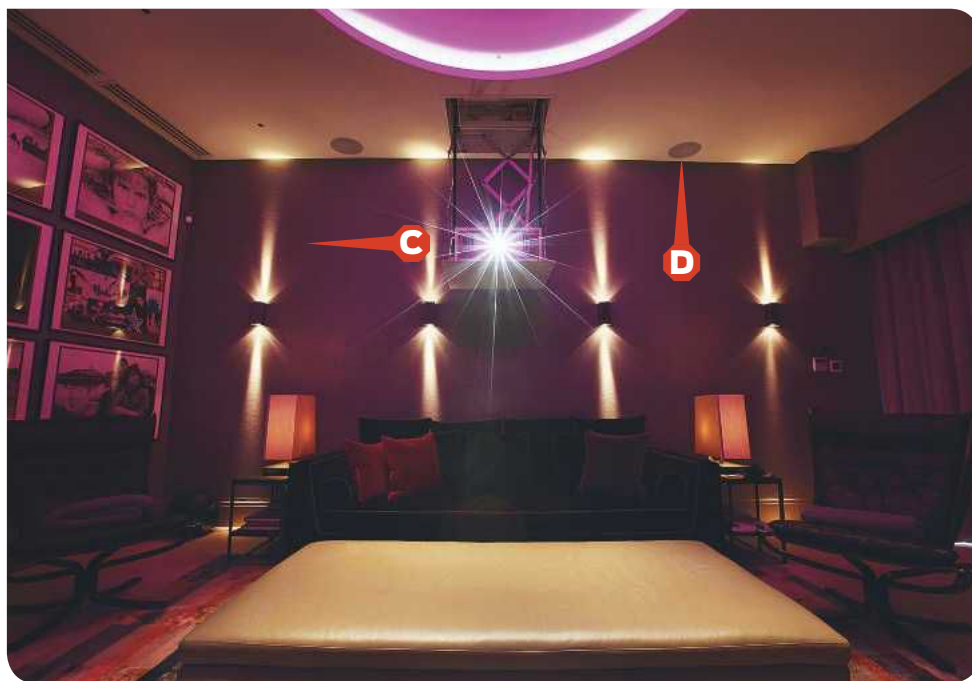
Bowers & Wilkins speakers are used for the surround channels, fitted in-ceiling, while the front array is mounted flush in-wall, with colour-matched grilles

E READY AND WAITING

The Screen Research screen is motorized rather than fixed, with its mechanism concealed in the ceiling

F DROP ZONE

Not only is the JVC projector sporting a white finish to better match the room's style, it's only visible when required, dropping down on an automated projector lift





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REVIEWS

→ **HARDWARE HIGHLIGHTS** SONY TV giant's curved 4K 65-incher **ARCAM** Networked Blu-ray/SACD player **DATASAT** High-end home cinema processor **OPTOMA** Budget Full HD projector **DEFINITIVE TECHNOLOGY** 5.1 sub/sat array **PANASONIC** Flagship UHD TV **SAMSUNG** Curved soundbar **MULTIROOM SYSTEMS** Audio Pro, Bose, Pure, Samsung and Sonos duke it out **AND MORE**

Telly addict

EE TV's debut Smart Box promises a new way to watch/record TV. See p56



HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

40 SONY BRAVIA KD-65S9005B → £3,900 Approx



The onboard Multi-angle Live Speaker system delivers an impressive sonic performance



AV INFO

PRODUCT:
65in curved 4K TV

POSITIONING:
At the top of Sony's range – a 75in model is an option

PEERS:
Samsung UE65HU8500;
Sony 65X9005B

Sony's debut curved TV takes a subtler approach than its rivals, but **John Archer** is still happy with the results

Curvaceous competitor

CURVED SCREENS REMAIN a source of debate in AV circles. Yet regardless of whether you love or hate them, you can't ignore them – and that goes for manufacturers as well as punters. So I find myself faced with the 65S9005B: the first curved TV launched in the UK by Sony. And a very striking sight it is too.

For starters, it's big: 65in of big to be precise. And it's joined in the S9005B range by a 75in sibling. I've always felt that curved TVs make more sense at really large sizes, so Sony thinking big for the S9005B is a good move. Especially as its bigscreen credentials are underlined by a native 4K resolution.

All-round appeal

The 65S9005B wears its size handsomely. Its left and right extremities feature rounded and – by modern standards – chunky edges, with stripes of light cutting across the middle. Two boldly angled feet support the TV and, of course, the screen curves gently back from you at its centre.

And when I say 'gently', I mean it. Sony's curved debutante doesn't feature nearly as severe a bend as models from Samsung and LG. The company says it has based the S9005B's curve on research by Japan's Kyushu University to find the best balance between curved screens' positive points – greater immersion and image depth – and negatives – distracting geometry issues during off-axis viewing and distorted onscreen reflections.

Its deep and rounded edges aren't just a design statement. In fact, they house another in a growing line of Sony TV audio innovations: a Multi-angle Live Speaker system. This uses a series of speakers firing at different angles – including behind the TV – to deliver a much wider soundstage than you'd typically get. In fact, Sony claims the 65S9005B's speakers can deliver a genuine surround sound experience, with effects sounding like they're coming from behind you.

And it sort of works. The Multi-angle Live Speaker system casts forth a huge soundstage that's detailed, punchy and dynamic enough to do a very decent impersonation of an external home cinema system. And, yes, there's an occasional hint of surround channel audio.

Among the set's picture talents is Sony's X-Reality Pro 4K video engine, as well as calibration tools that include local dimming controls; black level 'boosters'; various colour options including multiple levels of Sony's LiveColour processing (the set sports wide gamut 'Triluminos' technology); and some welcome flexibility over how strongly the upscaling engine works.

Connections include HDMI 2.0 ports to support 4K 60p feeds. The TV can also stream Netflix's HEVC H.265 4K content.

Smart features are built on Sony's SEN platform. It's pretty strong on the content front (notwithstanding the absence of 4OD and ITV Player apps), but its interface is ponderous. Android TV looks a far slicker proposition.

Backlight balancing act

At this price, you will expect to be blown away by the 65S9005B's picture performance – but for a few uncomfortable moments I wasn't. As soon as dark scene cropped up in a movie or TV show I couldn't help noticing patches of backlight clouding – at least when watching in a fairly dark room. Thankfully, this can be countered by reducing the backlight considerably (as far as its 1 setting for really blacked->

The standard handset is accompanied by a touchpad remote





Sony employs a gentle curve on this 65in TV

out rooms) without leaving images looking unwatchably dim.

Also worthwhile is the Dynamic LED control, which enhances black level response without upsetting the PQ apple cart.

For bright room viewing I suspect you will prefer to revert to one of the set's brighter presets. The key point is that tools are available to address the initial clouding problems.

And the 65S9005B is outstanding in most other key areas. For starters, the night-time race to the depths of the Louvre in *Edge Of Tomorrow* shows some gorgeously rich, convincingly deep black colours that stand in stark contrast to the milky greyiness found on less well-engineered TVs.

Connected to this black level talent is an ability to bring out lots of the subtle greyscale shading, deep colours and shadow details you need to make dark scenes look convincing. These qualities are especially welcome in a 4K environment, where any loss of detail is keenly felt.

Feed the 65S9005B some 4K material and it delivers the maximum impact from its souped-up resolution. 4K 60p footage from the 2104 FIFA World Cup, documentary footage sweeping over World Heritage sites, film clips – with all I was never less than wowed. Detail levels are sensational, delivering a flawless, real-life look. Sony's excellent motion processing means the intense sharpness scarcely misses a beat when there's motion in the frame, and it's backed up by flawless colour blends and transitions.

Netflix's *Breaking Bad* and *House of Cards* 4K streams, meanwhile, perhaps look slightly less clean than they do on Samsung's UHD range-toppers, but still impress. The quartet of 4K nature docs also available on Netflix at the time of writing are less appealing, but this is the fault of the content, not Sony's telly.

Efficient upscaling

The 65S9005B also reminds me how good Sony's upscaling processing is. Polished images like those on the *Man Of Steel* Blu-ray are noticeably more detailed and dense than on HD TVs, with scarcely a hint of additional noise. Even better, Sony's system handles grainy Blu-rays without exaggerating the source.

As with every 4K/UHD TV, upscaling standard-def material with conviction proves a struggle. But you'll be doing everything you can to avoid feeding the 65S9005B anything less than HD.

For 3D, this premium screen

uses an active system, which is great for making the images from my *Godzilla* Blu-ray look detailed and dense in a way that genuinely enhances the stereoscopic effect. However, shots containing a lot of depth of field and distant objects that stand out against a contrasting background – *Godzilla* standing tall against brighter skies, for instance – suffer distractingly with crosstalk double ghosting. Active 3D still has its issues, even on a 4K TV.

As for Sony's decision to adopt a curved design... well, the bottom line is that while the gentle curve is quite aesthetically pleasing, it doesn't have much effect (negative or positive) on pictures. It is nice, undoubtedly, to be able to watch a curved TV where you don't have to be sat in a smallish sweet spot to avoid the picture looking distorted, and don't feel bugged by reflections from your room distorting right across the screen. But the benefits the curve can bring to your sense of image depth are also reduced. Not to the point where they're completely negated, but I found myself questioning whether the 65S9005B's curve justifies it costing £700 more than Sony's flagship flat 65in 4K TV, the outstanding 65X9005B.

Put that issue aside and the 65S9005B is another class 4K act from Sony – and it's great to see the Japanese brand bringing its own ideas to the curved TV table. Yes, this screen is expensive, but if you've been bitten by the style bug and are feeling flush then it makes a sensible audition ■

ON THE MENU



→ The 65S9005B carries the 2014-era Sony Smart implementation. There's a decent VOD selection here, but the design is beginning to feel a touch outdated

SPECIFICATIONS

3D: Yes. Active
4K: Yes. 3,840 x 2,160
TUNER: Yes. Freeview HD
CONNECTIONS: 4 x HDMI (including 2.0 options); 3 x USB; Ethernet; integrated Wi-Fi; digital audio output; headphone jack; RF input; CI slot; component video input; RGB Scart
SOUND: 60W (from a Multi-angle array)
BRIGHTNESS: N/A
CONTRAST RATIO: 'Over 1 million'
DIMENSIONS (OFF STAND): 1,549(w) x 873(h) x 115(d)mm
WEIGHT (OFF STAND): 40.7kg
FEATURES: USB multimedia playback; DLNA media playback; 4K X-Reality Pro processing engine; SEN Smart system; Triluminos panel technology; Multi-angle Live Speaker system; X-tended Dynamic Range; fourteen preset picture modes; Advanced Contrast Enhancer; Intelligent MPEG Noise Reduction; NFC; Screen Mirroring; Wi-Fi Direct; Opera web browser; HEVC support; optional wireless subwoofer

HCC VERDICT



Sony KD-65S9005B

→ £3,900 Approx → www.sony.co.uk
 → Tel: 0845 6000 124

HIGHS: Terrific overall image quality and outstanding audio; 4K upscaling; gentle curve reduces reflections and geometry issues
LOWS: Curve doesn't enhance images much; expensive versus its flat sibling

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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you simply don't expect
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John Lewis

Richard Stevenson is reminded that investing in high-end hardware brings rewards

Sounds supreme

THE DATASAT LS10 is a stripped-down and frill-free 'lite' version of the company's flagship RS20i, aimed squarely at the custom install market. Those looking for fancy GUI interfaces, easy-to-access user options and wow-factor remote controls can look away now. If you are seeking seamless performance, pro-quality processing and even Auro-3D, then read on..

It's a 13.2-channel AV processor which comes to market at an eye-watering £10,000 for the vanilla DTS-HD/Dolby TrueHD version. If you want the Auro-3D ability, it's an update at a further £3,000. Ouch. And this is the more affordable model in the brand's line-up, forgoing such fun as the DIRAC Live room EQ found on its over-engineered bigger brother. Dolby Atmos is currently absent, too; Datasat tells me it is working on an upgrade path for Dolby's next-gen platform, and it should be available later this year.

What you do get in the LS10 right now is core audio processing that most local cinemas would be proud of, compatibility with the lossless Dolby and DTS formats (and Neo:X) and control via a Virtual Network Client (VNC) on a PC or smart device. The LS10 is all about performance and delivering the cleanest, most accurate audio processing available. Widgets taken for granted on even the most basic AVR are consigned to the bin if they are not performance-critical.

If looks could kill...

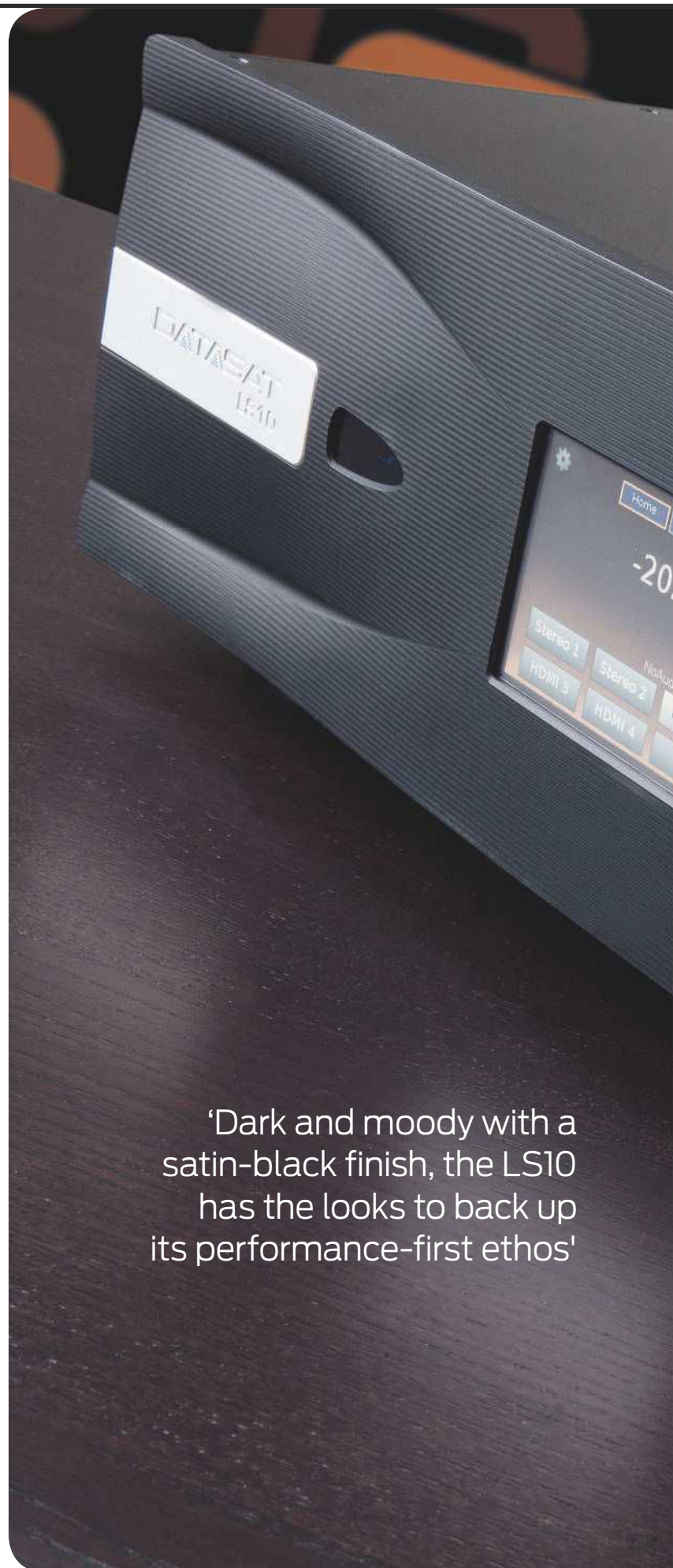
The Datasat has the looks to back up its high-end, straight-down-the-line ethos. It's dark and moody with a satin-black finish. Swage lines on the chunky fascia draw the eye to the bold central colour display. As you >

AV INFO

PRODUCT:
Performance-lead AV processor

POSITIONING:
Luxury level, yet below Datasat's reference RS20i

PEERS:
Anthem D2v;
Krell S-1200U



'Dark and moody with a satin-black finish, the LS10 has the looks to back up its performance-first ethos'



can tell from the lack of hardware buttons and knobs on the front, this is a touchscreen interface, which is colourful and responsive and can run fully-customised options and background wallpaper.

The back is arguably a whole lot more exciting too, particularly if you have a penchant for balanced analogue audio. No less than 15 XLR outputs are included. At its maximum the LS10 will run 13-channel processing with twin subwoofers. For the enthusiast, that could be a full 7.1+6-channel Auro-3D set up. Sadly, for those running a lesser number of speakers there is not much in the way of multiroom ability with the spare outputs.

Actually connecting the LS10 into my system was relatively easy, as it sat on top of my Denon AVP-A1HDA and the connections duly moved across. I love the fit and feel of XLR and the cables lock into place firmly. If you are considering long cable runs to your power amp(s) – five metres or more – XLRs also allow you to run fully-balanced cables to ensure best signal integrity and shielding from interference.

Digital delivery

Anyone worried by all my talk of no-frills specification, don't panic – the LS10 does proffer eight HDMI inputs and two outputs (v1.4), all supporting 4K (at 24p) and 3D. There's also a raft of S/PDIF digital connections, USB options including USB 2.0 asynchronous input to the built-in DAC, and an Ethernet port for network control. Unsurprisingly, there is an array of 12V triggers, a remote control port and an RS232 serial connector to integrate with a custom install control system. Hooked up to a display, don't expect an onscreen interface; the LS10 relies on its own front-panel display so as not to contaminate the pure video path.

What is also missing is a microphone input. This threw me to start with as the Datasat LS10 boasts a 10-band parametric EQ system for every channel. The supplied remote control is an appallingly uninspiring plastic affair that is designed as an item to use only if your touchscreen device is in another room – and it does not give access to the setup menus. And after much prodding of the touchscreen display I soon realised that the interface wasn't going to help with setup either.

Achieving even a most basic install requires a network connection and a PC/laptop/smart device running a VNC application. That is actually a lot simpler than it sounds and transpired to be flexible and robust. The interface replicates a typical AVR GUI, with options for speaker size, crossover, level, delays and input assign. It works best on a tablet, which saves booting up a laptop and gives you enough real estate to see the control properly.



The LS10 is available with a paid-for Auro-3D upgrade



Audio output is via XLR – use single-ended cable if your amp isn't also XLR-endowed

Room EQ is a lot less straightforward. While the EQ controls are comprehensive, the only way to achieve an accurate balance in-room is to tweak the filters while running a completely separate real time audio (RTA) analyser. Handily, being an audio geek, I had just a system to hand. So, with a calibrated DBA RTA mic, Roland Quad Capture USB interface and TrueRTA software running on the laptop, I got the LS10 to generate a pink noise tone for

'If there is such a thing as love at first listen, then you are all invited to my Datasat LS10 wedding'

analysis to each channel. By manually looking at the measured frequency plot you can then adjust each of the LS10's 10 EQ filters, across frequency, gain or cut and Q, and witness the effects on the sweep plot in real time.

That is potentially 150 filters 'to do' for a full 15-channel system. Given that adjusting any filter will have an impact on adjacent filters, particularly if each has a wide Q, then the time required to properly set up the LS10's room EQ will be measured in hours rather than minutes. If you love tweaking, the LS10 offers near infinite fettling opportunity. If you want to watch a movie, it's probably time to call in your Datasat installer.

Frankly, if you are in the market for a £10,000 processor (plus matching amps, speakers and video kit), then getting someone in to do the job properly isn't going to add too many beans to the overall bill.

To boldly go where I've gone before

Once fully calibrated, the first soundtrack you hear through a new piece of equipment is arguably the most important. Your ears are fresh, your mind is open and your brain has not had time to engage its own mental DSP. So for the LS10 I returned to one of my all-time favourites, the crisp Dolby TrueHD soundtrack for 2009's *Star Trek*. And if there is such a thing as love at first listen, then you are all invited to my Datasat LS10 wedding.

This sonic slab makes the opening sequence of JJ Abrams' sci-fi an utterly breathtaking experience, delivering seemingly endless scale and dynamics while remaining supremely well-balanced. Dialogue is articulate and intelligible, but at an optimum level relative to the chaos of the *USS Kelvin* being attacked. Effects are simply huge.

The sheer clarity and transparency of its sound through quieter passages impresses equally. *Star Trek*'s expertly-recorded mix creates a proper field of silence from which the score, dialogue and effects leap forth.

With the LS10, it's as if the sound has been cleaned up and separated into its individual components before being carefully presented to you. Every creak and groan of the ship's hull is tangible and real, and it is incredibly difficult to pin-point the speakers. Ironically, considering the LS10 doesn't yet do Dolby Atmos, I found myself making very positive comparisons with the best demonstrations I have had heard of object-based processing. The myriad, divergent soundscapes of *Cloud Atlas* (Blu-ray) were delightfully staged.

I aired on the side of subtlety in the EQ department, and found that the differences between EQ and no EQ were themselves subtle. Of course, you can go mad with the EQ but, as with any parametric equaliser, you simply can't iron out node-based peaks and troughs by adding or reducing energy. For adjusting the odd speaker balance anomaly or room-damping issue at specific frequencies, Datasat's system works a treat, however.

My love affair with the LS10 lasted the distance, too. Its smooth balance and unbelievably clean, gorgeously separated sound makes for properly fatigue-free listening. Over the few weeks I lived with it, never once did I find the presentation grating or have need to back off the volume. This was never more evident than with two-channel music fed from a PC into the USB 2.0 input. While a session with a new AVR or processor often involves stringing together a familiar list of test tracks to see how 'it' sounds, the LS10's ability to sonically disappear from the mix means you end up listening to the music instead. And then more music.

With movies too, after each film I often found myself checking the clock to see if I could squeeze in another (albeit a bombastic one) before bed. A lot of big AVRs and fancy processors have impressed me with their scale and dynamic prowess, their detail and resolution, or their stunning ability with a particular genre of movie. Yet I can think of only two that are captivating with any movie due to their impeccable neutrality and sheer transparency – Datasat's LS10 and Anthem's long-established D2v.

Listening pleasure

The LS10's frugal feature count, manual setup and current lack of Dolby Atmos decoding (not to mention HDMI v1.4 specification) is not going to appeal to those who want it all and want it now. Compared to a current top-range AV receiver at a fifth of the price, it is almost barren of bonus goodies. Yet what your £10,000 does get you is unrivalled processing and a sound that will continue to impress, with movies and music, long into the future. It's fit for the finest of cinema installs. Planning one of those? Then audition one of these ■

ON THE MENU

→ The Datasat doesn't offer an onscreen GUI – control and setup is achieved via a VNC app running on a computer or smart device. Basic selections can also be made from the front-panel touchscreen

SPECIFICATIONS

DOLBY TRUEHD: Yes. And Dolby Digital Plus
DTS-HD MASTER AUDIO: Yes. And Neo:X

THX: No

MULTICHANNEL INPUT: No

MULTICHANNEL OUTPUT: Yes.

15 x balanced XLR

MULTIROOM: Yes. 1 zone

AV INPUTS: 4 x digital audio (2 x optical and

2 x coaxial)

HDMI: 8-in, 2-out, v1.4

VIDEO UPSCALING: No

COMPONENT VIDEO: No

DIMENSIONS: 442(w) x 434(d) x 147(h)mm

WEIGHT: 15.4kg

ALSO FEATURING: Manual parametric EQ; VNC control; touchscreen display; remote control; 12V triggers; RS232; USB 2.0 input; rack-mount kit available; Auro-3D upgrade available; twin subwoofer outputs

HCC VERDICT



Datasat LS10

→ £10,000 Approx → www.datasat.co.uk
→ Tel: 01189 349 199

HIGHS: Effortlessly transparent sound with huge scale and precise steering; XLR connections; touchscreen display

LOWS: Lack of AVR features like GUI, auto setup, network streaming; HDMI v1.4; no Atmos path yet

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

Zeus himself might covet Arcam's new BD deck, says **Steve May**, but mere mortals should check it out, too

Arcam's heavenly Blu-ray creature

There's nothing on the remote to cause any headscratching...



AV INFO

PRODUCT: Blu-ray player with 4K upscaling and audiophile ambitions

POSITIONING: Arcam's top-end AV source component

PEERS: Oppo BDP-105D; Pioneer BDP-LX88

REGULARS WILL KNOW that insubstantial Blu-ray players are a *bête noire* of mine. Cheapo decks destined to become arthritic after a year or so give physical disc formats a bad name. I prefer beautifully built players, engineered to squeeze the last ounce of performance from a platter and engender pride of ownership.

So the arrival of a new machine from Arcam is a big deal. Its players tend to be hewn from Mount Olympus itself, and blessed with the ability to emotionally engage even the most mean-spirited of listeners. And while this new deck has a different lineage from what we've seen before – the brand is using the MediaTek platform favoured by Oppo and Cambridge Audio – these key attributes remain in evidence.

As befits its FMJ (Full Metal Jacket) prefix, the UDP411 is a substantial component. Unlike so many commodity disc spinners, it enjoys a full width 430mm fascia and is deep enough to rack with other (Arcam) gear.

The disc mechanism is centrally located, with trademark racing green status display. Tech epaulettes stress this player's rank: 'HD Ultra' upscaling, 3D, DTS and Dolby

certification, etc, while dedicated transport and power buttons hunker to the right. The quality of the finish is gorgeous.

The player is nearly, but not quite, universal. There's no DVD-Audio compatibility. While this is now very much a legacy format, there will be disc enthusiasts disappointed by the omission. The player remains compatible with Super Audio CD, though, as well as all the usual Blu-ray, DVD and CD iterations.

Backside connectivity is solid. You get phono stereo outputs, HDMI, an Ethernet jack, digital and coaxial audio outputs, USB reader and Wi-Fi antenna – the player has onboard wireless network support. There are also two balanced XLR jacks should your system be of sufficient audiophile bent. >



The UDP411 features 4K upscaling and balanced XLR stereo outputs



It must be said that the wireless option didn't work that well for me. With antenna aloft it failed to find a signal being pumped out by my Asus wireless router mere metres (and two walls away). It did locate a BT Home Hub that was slightly nearer, though. Given that my media was sitting on the former not the latter, I had to opt for a wired connection instead. This is, of course, always the best option given a choice. As an aside, the deck doesn't give you the option to see a password as you type it in via the onscreen keyboard – irritating.

While this Arcam may utilise MediaTek chippery, operational similarities with other players only become apparent when you delve into the settings menus.

The main home screen features rainbow wallpaper and just two buttons: Settings and My Media. The My Media button throws up networked media sources, connected USB devices or loaded discs. Video file support covers WMV, AVI, MKV, MPEG and VOB; audio embraces WMA, MP3, FLAC and DSD – with caveats. The deck proves a little snooty when it comes to NAS compatibility. It refused to play FLAC files from a QNAP NAS, while a rival Oppo on the same network had no such calms. Yet it did play nice with an Imerge music server.

Streaming apps, both video and audio, are ignored; there's an old-school simplicity about the offering. You'll not find BBC iPlayer here, nor Spotify or internet radio.

Image quality is positively divine. The opening sequence to Pixar's *A Bug's Life* (Blu-ray), is a symphony of fine detail and velvety colour gradation. The camera pans into the forest of grass to reveal ants collecting and marching food back to their nest; from the heavily textured gravel to the artfully delineated grass and leaves, everything shines. I don't think I've ever seen this disc look better.

The UDP411 can upscale all sources to 4K UHD (3,840 x 2,160) if your display supports it. You can also force it to output at 1080p, 1080i, 720p or less. While it's tempting to put the output on Auto, specifying a resolution to match your display is probably the best option.

With HD sources now almost ubiquitous, some may consider a player's upscaling talents superfluous. Yet excellence in this area can be vital in maintaining the longevity of your disc collection. While the majority of movies have been remastered in HD, be it for broadcast

syndication or content release, there are still plenty of titles not so readily available. *War of the Colossal Beast* may be a B-movie genre classic, but this 1958 schlocker is unlikely to get a BD re-release anytime soon. Thankfully, the upscaling on the UDP411 is good enough to make such a criminal oversight more bearable. When our monochrome heroes rattle across the Mexican desert in a van laced with drugged bread in search of a 60ft man mountain (as you do), jaggies are nowhere to be seen.

Disc loading speeds are refreshingly fast. A Java-lite concert Blu-ray goes from screen to menu in 28 seconds, while a more complex reference platter takes just 41 seconds.

Sonically satisfying

The UDP411 proves a peerless multichannel audio source, too. The insect-strewn DTS-HD MA soundtrack of *A Bug's Life* is consistently enveloping, with indefatigable buzzes and chirps. When Hopper and his grasshopper band invade Flick's anthill, the entire soundstage is alive with fluttering wings, crumbling nest and ominous beats.

Similarly, the multichannel SACD release of Bowie's *Ziggy Stardust* is a sumptuous listening experience, with immaculate image placement and three-dimensional instrumentation – the disparate chords of *Five Years* breaking through on the back left continues to catch me out, no matter how many times I've heard it, while the ping pong stereo of *Soul Love* is like having a sonic massage from heaven-sent balladeers.

For two-channel sources, my preference is for the Arcam's analogue outputs, although it must be said stereo over HDMI (which supports up to 24-bit/192kHz) is entirely acceptable. Beneath the lid a TI/Burr Brown PCM1794 DAC offers a pristine two-channel performance, aided by sub-regulated power supplies for the drive, audio and DAC boards.

The UDP411 is therefore a formidable Blu-ray player, which for the most part delivers an AV performance commensurate with its hefty price tag. A shame it doesn't play equally with all NAS devices, but image quality from native HD is jaw-droppingly good. The deck faces strong competition from the £1,000 Oppo BDP-105D, which dukes it out toe-to-toe on performance terms, and offers more feature niceties, but the Arcam faithful are unlikely to be swayed when faced with a choice ■

ON THE MENU



→ Arcam adopts a retro-looking 'rainbow' wallpaper for the deck's home screen. Select 'My Media' to peruse disc, USB and networked content

SPECIFICATIONS

3D: Yes
UPSCALING: Yes. To 4K
MULTIREGION: No. Region B BD/R2 DVD
HDMI: Yes. 1 x v1.4 output
COMPONENT: No
MULTICHANNEL ANALOGUE OUTPUTS: No – stereo only
DIGITAL AUDIO: Yes. 1 x optical output; 1 x coaxial digital output
ETHERNET: Yes
BUILT IN WI-FI: Yes
SACD/DVD-A: Yes/No
DOLBY TRUEHD/DTS-HD DECODING: Yes/Yes
DOLBY TRUEHD/DTS-HD BITSTREAM: Yes/Yes
DIMENSIONS: 433(w) x 100(h) x 400(d)mm
WEIGHT: 6.2kg
FEATURES: Balanced stereo XLR outputs; TI/Burr Brown PCM1794 DAC; USB input; media file playback over DLNA and USB (WMV, AVI, MKV, MPEG, VOB, WMA, MP3, FLAC and DSD); RS232/IP/IR system control; Apple iOS app controller; selectable output resolution

HCC VERDICT



Arcam FMJ UDP411

→ £1,200 Approx → www.arcam.co.uk

→ Tel: 01223 203200

HIGHS: Superb HD video performance; excellent multichannel performance; audiophile stereo; brilliant build quality

LOWS: No DVD-Audio support; no internet content services; can be picky when streaming from a NAS

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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Can Panasonic's most advanced 4K LED screen yet achieve its lofty ambitions? **Steve May** investigates

Refining the high-end of Ultra HD

THE TX-55AX902 HAS a lot to live up to. First teased over a year ago, when Panasonic created headlines with the promise that it was working on an LED LCD able to exceed the picture performance of its plasma TVs, it bristles with advanced image wizardry, plus a full-array LED backlight with advanced local dimming. So can it lay claim to the high-end 4K market?

For its premium screen, Panasonic provides silver-finished remotes



Cosmetically, the AX902 certainly features an uncompromising, premium design. Even this modestly sized panel (you can also buy it in larger 65in guise) comes in at a substantial 26kg. While it's far from wafer-thin, it sports a nicely bevelled metallic trim and utilises the brand's impossibly heavy rear counter-weight stand design, in an effort to convince us that the screen is delicately balancing on its slender frame. By way of a design flourish, there's a blue LED lighting effect which looks initially cool but quickly becomes irritating when you want to kick back and watch a movie. Thankfully, it can be turned off.

Connectivity is excellent. There's a quartet of HDMI's with HDCP 2.2 copy protection support, plus DisplayPort for 4K PC action, component and Scart via an adaptor, three USBs and an optical digital audio output.

Doing the dim sums

The set's full-array LED backlighting system features 128 zones of dimming. Panasonic dubs this Local Dimming Ultra. There are obvious benefits to having a full-array backlight. For one thing, screen uniformity is vastly improved. The familiar light pooling seen in the corners of edge-lit LED screens is absent, giving images great subjective solidity. When applied well, subtle nuances and gradations in the picture become more apparent. Overall dynamism can also be improved. Backlight control is adjusted on a block-by-block basis within the image.

Do note that this full-array backlight requires considerable cooling. Consequently, there's a low whirr evident from the onboard fans as soon as you power up.

There's also sophisticated area gamma control. The brightness level is analysed for both highlights and darkness, with the gradation optimised for each scene. Panasonic puts great store in its halo effect reduction technology, which analyses images vertically, horizontally, diagonally and back and forth. Performance, though, very much depends on your chosen viewing mode.

There's a multitude of image presets available on the AX902, which makes it all the more infuriating that there's not a single one which totally satisfies. The Normal setting offers the best brightness and colour reproduction, but suffers from horrible backlight haloing. When Michael Madsen sets about burying Uma Thurman in my reference Blu-ray copy of *Kill Bill Vol. 2*, his white Stetson has an unnatural white glow when it's picked out against the pitch-black night sky. This offending halo vanishes in the True Cinema, Cinema and THX modes, but all three are just too dull and dark to be reliably entertaining. This is a shame, as the TX-55AX902 is a bright IPS panel, rated at a huge 700 Nits. Such luminosity takes it well beyond the typical brightness of a regular LED or OLED, which tend to max out at around 500 Nits, and on the way to a low HDR specification.

The AX902 can actually handle the *Kill Bill* burial sequence well. THX Cinema, taken off >





**QUEEN
OF SCI-FI**

Lucy sees Scarlett Johansson gunning for trouble, p96

AV INFO

PRODUCT:
Full-array backlit
4K LED TV

POSITIONING:
Panasonic's current
flagship screen

PEERS:
Sony KD-
55X9005B;
Samsung
UE55HU8500

The TX-55AX902 features 128-zone
local dimming



A rear-mounted stand gives the AX902 its floating style

the Warm 2 temp setting and given a whisper of extra brightness, looks nicely cinematic. The faint shadow detail in this very difficult scene is authentically rendered and, importantly, the panel doesn't try to auto turn-off.

Intelligent upscaling

Image definition is often breathtakingly good. Gareth Edwards' *Godzilla* (Blu-ray) exhibits awe-inspiring weight and texture. A Quad Core Pro5 processor provides the beating heart of the set's upscaler, analysing the resolution of source material and then applying texture analysis; the intention is to identify and process real image detail without unintentionally enhancing noise.

If you don't want the screen to guesstimate detail, there's a '1080p by 4pixel' option which offers simple linear scaling, as well as a 1080p Pure Direct mode. Sharpness should be set no higher than 10, or it introduces ringing.

Black level performance is fine, given the common limitations of an IPS panel, particularly when viewed with some modicum of ambient light. When seen in a dark room, *Godzilla*'s MUTOs venture across the Hawaiian island in a dark grey rampage. However, up the lights and perceived contrast improves. Certainly the shadowed action, illuminated by search lights, flares and sundry firefights, appears deliciously dynamic.

There are issues with the AX902's motion handling. It features aggressive image interpolation, warranting the highest 3000Hz BLS (Backlight Scanning) ranking amongst Panasonic screens, earning it the IFC Pro soubriquet. IFC interpolates frames before and after the original, effectively smoothing out motion. The resulting footage gives images an icy slipperiness. 4K 25p, for example, is reworked to 4K 100p.

The catch is that the process also creates image artefacts, seen as smudgy disturbances around certain moving objects. And I found that in all IFC modes (Min, Mid and Max) the set exhibits pronounced artefacting. Of course, if you like interpolation, the screen is supremely smooth, retaining detail particularly well on the Mid and Max settings. Yet even with IFC turned off, there are still artefacts to be seen.

Dig deep into the image menus (there are a lot of them), and you'll find some interesting refinements. There's standard support for Rec.709, the default colour space first coined in the era of the CRT. However, there's also an element of future-proofed colour fidelity, with a Rec.2020 Colour Remaster setting. This uses a 3D Look Up Table (LUT) to convert a BT.2020 colour signal into a colour space that can be

displayed by this panel (it can't handle the Rec.2020 specification).

There's also a choice of four colour gamut modes: Native, Rec.709, SMPTE-C and EBU. Native can reveal a significant boost to colour richness, while Rec.709 reduces things to a slightly subdued state. By way of comparison, when *Hit Girl* readies herself for the assault on the mobster's goons in *Kick-Ass* (Blu-ray), having quickly dispatched the first contingent of bad guys in a whistling flurry of blood and lasso, her barnet is deep purple, her grenade a mustard yellow. Move the colour gamut from Rec.709 to Native and her hair takes on a much richer shade, and the grenade gains some lemon yellow. The ensuing violence looks hyper real, with ruby-red gore and deeply saturated blues. Red Mist's costume delivers a deep red that LCDs rarely manage.

As you might suspect, there's no visible speaker system. Instead the set offers twin down-firers, bolstered by a rear-firing woofer. The audio quality is fine for casual use, but there's no real appreciable stereo soundstage.

Attention to detail

There's no doubt that Panasonic has lavished inordinate attention on the TX-55AX902. It's a heavyweight 4K panel in every sense, capable of often gorgeous images. But given its premium price and the hype which has preceded it, it's not an entirely successful flagship. Excellent fine detail and Smart functionality are offset by often clumsy image presets and intrusive motion artefacts. Thanks to the full-array backlight, there's a wonderful uniformity to the image, a balance that really does recall the consistency of plasma. However, LCD traits are never too far from the surface. Close then, but no (plasma) cigar ■

ON THE MENU



→ Although Panasonic has announced a tie-in with Mozilla's Firefox OS for some of its 2015 TVs, we're still big fans of its 2014 My Home Screen iteration

SPECIFICATIONS

3D: Yes. Passive 3D
4K: Yes. 3,840 x 2,160
TUNER: Yes. Dual Freeview HD; dual Freesat HD
CONNECTIONS: 4 x HDMI; 3 x USB; Scart and component/composite video via an adaptor; optical digital audio; Ethernet; built-in Wi-Fi; CI slot; SD card; headphone
SOUND: 18W (4W + 4W + 10W)
BRIGHTNESS: N/A
CONTRAST RATIO: N/A
DIMENSIONS (OFF STAND): 1,238(w) x 741(h) x 59(d)mm
WEIGHT (OFF STAND): 26kg
FEATURES: USB multimedia playback; SD card multimedia playback; DLNA streaming; full-array backlight; touchscreen remote with microphone; customisable My Home Screen Smart interface; 3000Hz BLS (Backlight Scanning) IFC Pro; Quad-Core Pro5 processing engine; Studio Master Drive

HCC VERDICT



Panasonic TX-55AX902

→ £3,100 Approx → www.panasonic.co.uk

→ Tel: 0844 844 3899

HIGHS: Excellent image delineation; comprehensive Smart connected functionality; Netflix 4K; backlight uniformity

LOWS: Poor motion handling; clumsy image presets; fan noise

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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The EE TV Smart Box takes timeshifting to another level.
Steve May gorges on Replay TV

Four times the fun?

THE 1TB DRIVE in the EE TV Smart Box is surely the hardest-working HDD in all PVR-dom. It's continually grafting, banking a half-dozen channels constantly, as well as recording and playing back to main and mobile screens. Think of it as a diddy, digital dervish.

Mobile and broadband service provider EE (the UK's largest) is the latest telco to muscle in on the TV market. With BT and TalkTalk already offering hybrid DVB/IP TV propositions, using the YouView platform, this newcomer

hardware needed to offer something different – which it certainly does.

As a PVR, it's unassuming. Just 210mm across, it's close to half the size of a Sky PVR or Humax Freeview box. A fanless design, it uses a

mesh roof to aerate its electronics, while the fascia is dominated by a glaringly large LED; red in Standby, green when awake. This traffic light sits adjacent to bold EE branding.

The rear of the box offers up an aerial loopthrough for DVB Freeview, plus an HDMI output, digital optical audio output, stereo phono, gigabit Ethernet and a non-functioning USB port. If you don't want to hardwire your network connection, you can use integrated Wi-Fi. Usefully, the EE TV box can see both 2.4GHz and 5GHz bands, allowing you to rise above more congested Wi-Fi hotspots.



The EE TV PVR incorporates four tuners

While the STB comes with a standard IR blaster, I suspect many users will probably opt to use the dedicated app on a mobile device.

Hybrid proposition

As with YouView before it, the EE Smart Box experience is a mash-up of linear OTT broadcasting and network functionality. The home screen comprises a live TV window, and broadcast channel thumbnails. There are also tabs and hot buttons for Radio, OnDemand, Recordings and Replay. It's the latter which gives this recorder its unique functionality.

You can assign six channels to your Replay group from a preselected group of 15. The EE TV box then auto-records the relevant multiplexes, and extracts the channels for a preset amount of time, allowing you to forage for items of interest. It's pretty cool. The last time I saw something like this was in a Toshiba R&D lab in Tokyo about a decade ago.

The amount of content you can attribute to Replay is variable. You can choose to catch 24, 18, 12 or six hours of stuff. Alternatively you can switch it off altogether. When the PVR is in Replay mode, you can still record two programmes at the same time. Switch it off, though, and you can record up to four

programmes simultaneously. That should help overcome any family arguments.

Replay transpires to be an inspired way to catch shows you might have missed. Programmes are represented by thumbnails and organised by channels. Having a day's worth of TV on tap from a local hard drive is a great idea.

Unfortunately it's not possible to assign any HD channels as Replay options. EE cites the storage overhead required by HD files as a key reason not to offer HD Replay, as well as the lack of relevance to mobile users. The latter is certainly true, but this adherence to SD takes the shine off the service when it's being used in a living room/home cinema environment.

There's also a Restart mode, which allows you to start a show from the Replay channel bouquet from the beginning if you're late to the sofa.

There are also dedicated apps for streaming content. These include YouTube, Wuaki.TV, BBC iPlayer, Demand 5 and BBC Sport, with more in the EE app store. The absence of ITV Player, 4OD and Netflix is an obvious shortfall.

Overall AV performance is fine, with the proviso that you'll need a network speed of at least 4Mbps to coherently stream video content. Sound and picture setting modes are highly simplified. The Audio Output setting offers only Home Cinema or Digital Stereo tick boxes. The good news is that the box can deliver Dolby Digital 5.1 via HDMI and digital optical audio – although Freeview broadcasts continue to be flaky in this regard, depending on the channel. By way of example, an E4 Freeview transmission of *The Big Bang Theory* can be broadcast in stereo, while the same show via the Sky platform is presented in 5.1.

Where the system really starts to make sense is when used with the matching EE TV app. The modular UI is largely the same, and you can utilise the Replay modes, stream live channels and watch recordings from the set-top box's hard drive. Indeed, you can watch four different programmes, or recordings can be viewed on four different devices. When viewing on a mobile device, you can also cast back to the main screen.

The EE TV PVR is free to EE, T-Mobile and Orange mobile customers who sign up to an EE broadband plan; currently these start at £9.95 a month, for up to 17Mbps a month, or from £19.95 for fast fibre. Note that the EE TV box only works with EE wireless broadband from an EE-provided Brightbox router.

Overall, this hardware debut proves a novel addition to the fast-growing telco-sponsored PVR market. Its mobile functionality is excellent, although the lack of HD Replay is a key disappointment. While you'll still have to opt for a premium TV provider like Sky or Virgin for the best in Pay TV channels, the functionality here has a lot of appeal, particularly for heavy mobile users ■

ON THE MENU



→ EE TV's user interface adopts the cyan tones of its parent brand. The Replay function presents recorded content as large thumbnails, organised by channel. Nicely intuitive, and the app control is slick, too

SPECIFICATIONS

HDD: Yes. 1TB
CATCHUP/VOD CHANNELS: Yes. BBC iPlayer; Demand 5; Wuaki.TV; YouTube and more
TUNERS: Yes. 4 x Freeview HD
CONNECTIONS: HDMI v1.4; optical digital audio output; Ethernet; stereo phono output; USB (service); built-in Wi-Fi
DIMENSIONS: 210(w) x 43(h) x 200(d)mm
WEIGHT: N/A
FEATURES: Six-channel instant Replay; over 70 Freeview channels; iPlayer/Red button support plus streaming content apps; mobile screen streaming; Series Link, pause/rewind live TV; Restart mode

HCC VERDICT



EE TV Smart Box

→ £Free with subscription → www.ee.co.uk
 → Tel: 0333 331 7414

HIGHS: Replay TV functionality; quad tuner; versatile mobile streaming; small form factor

LOWS: No HD channel Replay functionality; no iTV Player or 4OD catch-up apps; no Netflix or network media/USB playback

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

AV INFO

PRODUCT:
Freeview/IPTV
set-top box

POSITIONING:
The first PVR
from EE

PEERS:
BT/TalkTalk
YouView PVR;
Sky+HD;
Virgin Media TiVo



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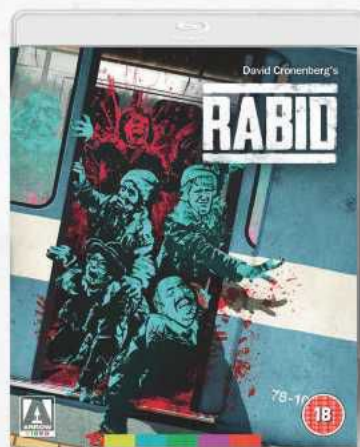
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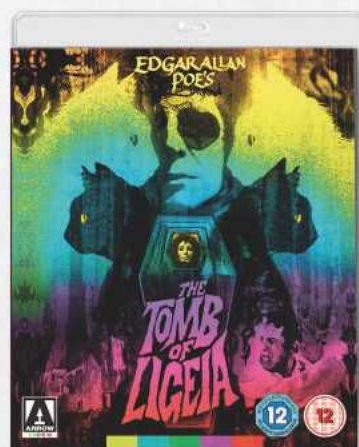
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Multiroom maestros

Adrian Justins auditions five audio eco-systems that enable wireless streaming of your music to wherever you are in the house

AUDIO PRO LIVING SERIES

The Scandinavian corp does things a little differently...

BOSE SOUNDTOUCH

Stylish speakers, but will they perform where it counts?

PURE JONGO

Brit system brings subscription music-on-demand to the party

SAMSUNG SHAPE

Superb app control among the highlights here

SONOS PLAY

Does the multiroom innovator still rule the roost?



Audio Pro LV22

These speakers deliver multiroom audio with an old-school approach – but is that a problem?



AUDIO PRO TAKES

the rather unfashionable decision and eschews Wi-Fi for its Living Series of multiroom stereo speakers in favour of a dedicated proprietary protocol RF network. It's by no means an antediluvian approach, as RF has distinct benefits including a maximum (line of sight) wireless range of around 100m, although this is reduced to around 20m from one room to another because of physical barriers such as walls, sofas, large pets, etc.

Living also offers CD-quality streaming at 48kHz with no discernible delays, and is operated using physical remote controls rather than a touchscreen app, which is definitely an advantage in my book.

Setup may sound more complex than a John Le Carré novel but it's both versatile and pretty simple to install. Each set of speakers is provided with a mini transmitter (TX-D200), which is USB powered and can connect to a PC or Mac in order to act as a conduit for online music services, iTunes libraries, etc. It can also be hooked up to other sources, including those with analogue line or digital optical outputs such as CD decks, TV screens and Bluetooth receivers, and doesn't need to be attached to a computer (a mains PSU is supplied). It can also play nicely with AirPort Express, thus providing Apple users with AirPlay streaming.

An alternative to the TX-D200 is the Living LV-HUB, which is a mains-only hub/transmitter designed for permanent wired connection to a TV screen or CD deck. It has a wider selection of sockets, namely a USB

type B input, two digital optical inputs and one 3.5mm analogue line input. I hooked up the hub's two optical inputs to a Samsung TV and a QED uPlay Plus Bluetooth streamer. The latter received an aptX Bluetooth connection from my MacBook Air.

Both the LV-HUB and TX-D200 mini transmitter have asynchronous USB sockets, which allows you to bypass your computer's (usually mediocre) sound card and take advantage of a Sonix sound processor.

The system progressively controls the audio bands available, ensuring that the Audio Pro network can coexist with other wireless systems. A built-in filter removes RF interference from other networks.

A slider switch on both transmitter and HUB lets you choose from one of three channels on which to operate, called House Codes. For party or multiroom use you can add as many speakers as you like within the range of the transmitter and control the volume on all speakers at the same time from the remote control, which has a master volume. Or, you can divide the speakers into three zones and set volume levels separately for each zone from the same remote control.

When the party's over you can disengage from multiroom use (if you have more than one transmitter) and can operate different speakers on different channels. Each speaker has a small LED display that can briefly show you which channel/zone they are operating on.

I had no trouble getting a signal around my house's thick brick walls and floors.

The bookshelf-style LV22s have a gorgeous leather finish and are no bigger than any of the other models tested here. Each speaker is a fully active two-way bass reflex cabinet, driven by dual 25W Class D amplifiers. The power output is mightily impressive, as is the effortlessness with which the speakers are driven. *Billie Jean* (Michael Jackson) is dynamic, assured and offers a nice balance of sheer detail with smoothness. The bass extension isn't the lowest but it is beautifully controlled and does more than enough to draw you in, while higher frequencies are silky but with real substance. By using my QED uPlay Plus with an analogue connection I managed to get a smidge more detail but either way the results were spectacularly good. The LV22 is not the most affordable of speakers – multiple zones will soon become costly – but it certainly justifies its price premium.

SPECIFICATIONS

DRIVERS: 1 x 1in soft dome tweeter; 1 x 4.5in aluminium midbass driver

ONBOARD POWER: 2 x 25W

DIMENSIONS: 210(h) x 145(w) x 180(d)mm

WEIGHT: Not specified

FEATURES: Transmission via RF and TX-D200 transmitter, or Living LV-HUB (both with asynchronous USB); House Codes multiroom setup; remote control; built-in RF filter

Bose SoundTouch 20 SII

The American audio expert joins the multiroom brigade with mixed results



BOSE, LIKE SAMSUNG, is a relative newcomer to the multiroom lark, but as ever it likes to do things a little differently. Its SoundTouch range uses bog-standard 802.11 b/g Wi-Fi to operate but it manages to be simultaneously more versatile and less convenient than the likes of Sonos and Pure. More versatile in that its speakers have handy (and rather impressive) OLED display windows and physical remote controls to complement the smartphone and desktop apps, but less convenient in that its range of online streaming services is pitifully small.

For owners of iPhones and iPads it has the convenience of AirPlay, which allows you to browse and stream from an iTunes library or Deezer account more easily than using the Bose app. AirPlay also offers a means of streaming from Spotify Connect if you don't have a Premium account, plus metadata is transmitted and displayed regardless of the source. Yet Bluetooth is absent so Android devices can only use sources that integrate fully with the Bose app (in other words, if you have Spotify it must be a Premium account).

The speakers themselves are fashioned from high-quality plastic with an inoffensive black and white livery. Socketry comprises Ethernet, a 3.5mm input and USB (the latter provided for the process of setup only). To do this you install and run the Bose desktop app, and hook up a speaker to a computer using the provided USB cable or wirelessly by running the app on a smartphone/tablet. Type out the answers to a few questions to get your network and music libraries on board and you're up and running.

The desktop app is the polar opposite of Sonos's, with ultra-large fonts that are probably visible from space. It's also more logically laid out, so it's easy to tweak settings and set presets to internet radio stations or music library playlists. Select Spotify, though, and it tells you to use your smartphone or tablet.

You can add additional speakers and group them easily enough. A 'tray' at the bottom of the app shows your various speakers and groups, with the host speaker clearly marked out. You can run up to six units simultaneously but the six presets have to be the same across the whole system. You can, however, create multiple groups and move so-called guest speakers from one group to another, but each group must have a different host speaker. For an instant party you can simply select a 'play everywhere' mode.

Having a physical remote control is great if you're using the SoundTouch, want to quickly change sources, skip tracks, alter the volume, etc, and don't have the app-running device to hand. There's no browsing facility on the remote or on the speaker but there are six preset buttons on both. For a device that offers access to thousands of internet stations, that number soon starts to feel insufficient and the presets can only be changed using one of the apps, not with the remote or on the speaker itself. And, although re-tuning can be slow, one press of a button on a remote is often quicker than using an iPhone and delving

in to the app. Anyway, you might be using the phone while someone else wants to change source...

The list of supported formats is short, but includes hi-res Apple Lossless files as well as MP3, WMA and AAC. I liked the fact that, unlike the Sonos, the controller app only listed compatible files when browsing my music library. On the other hand, I kept having to remind myself to manually re-sync the library every time I imported any tracks to iTunes.

Playing Chris Isaak's *Wicked Game*, the SoundTouch 20 suffers, like the Samsung Shape elsewhere, from an overexcited bass response that can undermine some good work done at the other end of the frequency range. Yet it's not as profoundly bassy as the Samsung and its vocals sound a little more excitable. There is plenty of energy here, and the speaker is well-endowed in terms of power with reasonable levels of detail in the mid and upper-range. But, overall, this lacks the refinement in terms of performance that it offers in terms of design.

SPECIFICATIONS

DRIVERS: Not specified
ONBOARD POWER: Not specified
DIMENSIONS: 188(h) x 314(w) x 104(d)mm
WEIGHT: 3.2kg
FEATURES: Ethernet, 3.5mm and USB inputs; built-in Wi-Fi; OLED display; MP3, WMA, AAC and Apple Lossless support; IR remote; app control/setup; Spotify and Deezer support; six presets; Play Everywhere mode

Pure Jongo T6X

Caskeid technology gives you free rein to stream, but do the speakers cut the mustard?



PURE'S JONGO SYSTEM is similar to Samsung's Shape in that it features both Wi-Fi and Bluetooth, but the latter is restricted to single-speaker streaming by Samsung, whereas Pure's so-called Caskeid Bluetooth can help create a multiroom wireless network. Caskeid is not aptX standard but Pure claims that it does offer the lowest latency of any multiroom system. Arguably of more importance is that without Bluetooth you wouldn't be able to stream from subscription services such as Spotify, Deezer and Google Play. You would, of course, be able to access Pure's own online subscription service called Pure Connect, plus music stored on the playback device (tablet or smartphone) and DLNA-connected devices.

Pure Connect has three membership tiers. Basic (free of charge) lets you play your own music stored on your phone or tablet and access countless radio stations and podcasts; for a fiver a month you can access Pure's archive of 15million or so tracks, and another £5 allows you to access those songs when offline.

Caskeid Bluetooth also brings into play music libraries (or subscription services) stored on desktop and laptop computers, and (if your browser supports it) the web-based version of Pure's Connect service. Unlike Bose, Pure doesn't have a desktop app but its iOS and Android app is streets ahead of the opposition in terms of its DLNA integration, displaying all folder view options. By chance I found that it could access and playback my iMac's iTunes library via the Bose desktop app, which was listed as a DLNA source. Sadly, Jongo teases you by recognising hi-res

files and manfully trying to play them before admitting defeat.

There are three mains-powered speakers in the Jongo range (the 20W T2X, 50W T4X and 100W T6X), plus – uniquely for a multiroom system – the rather useful T3X, a portable 20W speaker than can run off battery power. Aesthetically, Jongo speakers are neat rather than exciting or classy but they're made from sturdy plastic with a removable cloth-covered grille for which multiple colour options are available. An on/off button with glowing status LEDs is located on one side, with volume controls nearby. At the rear are a bass port and 3.5mm inputs plus a USB service port. Each speaker can be wall-mounted, and can

'Pure's iOS and Android app is streets ahead of the opposition in terms of its DLNA integration'

be orientated horizontally or vertically, but you must change the settings in the app, where you can also create stereo pairs and groupings.

Wi-Fi is mandatory for setup, with the speaker temporarily generating its own wireless network, which you then instruct to use your own router. Nice and simple. If Caskeid is switched on, the speaker in question will receive its audio by Bluetooth and stream

SPECIFICATIONS

DRIVERS: 2 x full-range 5in drivers

ONBOARD POWER: 2 x 50W

DIMENSIONS: 190(h) x 370(w) x 175(d)mm

WEIGHT: Not specified

FEATURES: Wi-Fi and Caskeid Bluetooth; 3.5mm aux input; Pure Connect app and subscription streaming service (with 15million tracks); no bridge/hub required; horizontal/vertical orientation; removable cloth grilles (different colour options available)

it around the house using Wi-Fi. The volume can be controlled on a speaker-by-speaker basis, as can the bass and treble.

Having Bluetooth is certainly better than not having it, but you do have to go through the faff of reconnecting from within your device's settings menu every time you return to using it. And, of course, the way that Sonos integrates Spotify within its own app is preferable in my book.

When listening to Lorde's *Royals* via the Pure Connect online service the Jongo T6X is hamstrung by the low bit-rate, with a lack of high-frequency detail all too evident. Vocals are a bit thin and bass is over-emphasized, so that when played loudly there's an excess of reverberation. A higher-quality AAC version improves matters with the higher frequencies, but low-end bloom is still an issue. Less extreme content, such as the *Raiders of the Lost Ark* theme, is much more enjoyable. The trumpet is lively and energetic and when the strings kick in the whole piece feels nicely balanced. Likewise, Chris Isaak's *Wicked Game* is finely rendered. It's a fair all-round effort. >

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Samsung M7

These large, wedge-shaped multiroom speakers benefit from a superior app controller



THE WAM750, OR M7 to give it its stage name, is one of Samsung's Shape range, powered by Qualcomm's AllPlay Wi-Fi platform. It can also receive tunes over Bluetooth and has an NFC button which allows your mates to instantly subject you to their favourite tunes stored on their NFC-equipped smartphones. But Bluetooth can't be used to send audio to other M7s (or the smaller M3 and M5 speakers for that matter) located around the house; only Wi-Fi can.

Fans of hi-res audio with 24-bit/192kHz tracks stored on network-connected devices will need to plump for Wi-Fi anyway or use an Ethernet cable connection. A single M7 can be connected to a router wirelessly but it's a convoluted (WPS-based) procedure compared with adding a WAM250 Hub (yours for £50) to the setup. You simply press a button on the hub, turn on the speaker and wait for them to cosy up, which is confirmed by a pleasing melody and pulsing blue light from behind the front grille. You can then add up to 15 more speakers by following the same procedure.

Shaped like a giant Trivial Pursuit wedge, the stereo M7 is an attractive piece of round-edged cheese, fashioned from durable plastic (available in black or white). It can be positioned horizontally or, if perched on a plastic stand, vertically, in which case each two-channel speaker automatically becomes mono (so you'll need two for a stereo setup). You can build a full wireless multichannel surround sound system if you have a compatible Samsung TV, using the screen or a Samsung soundbar as the centre channel.

Each M7 seems bereft of external controls but has a slew of camouflaged, touch-sensitive buttons. Using the external controls works well when the M7 is in the horizontal position, where you can adjust volume and scroll through a selection of preset TuneIn internet radio stations. If vertically positioned it's best to operate the M7 using Samsung's free-to-download Android or iOS app. And the app is required to change the preset radio stations, choose network sources (including streaming services such as Spotify) and control the output across multiple speakers.

The app is nicely designed and a pleasure to use, with a logical layout and drag-and-drop procedures, including plans of your room including a sofa to indicate the listening position. For a two-speaker stereo setup you simply press and drag each speaker into position and conduct a test tone to check they've been set up properly, then create a label (eg. bedroom). You can also drag individual songs and playlist on to the speakers you want to stream to, and can send different sources to different speakers. It's slicker than a vaseline production line.

The My Music menu page lets you select internet radio, DLNA networked devices, streaming services and tracks on your phone or tablet. The latter has options to select by album, song title, artist, genre and folder, and you can build playlists within the app. EQ adjustment consists of bass, treble, balance and dynamic range compression. Supported streaming services aren't as numerous as with Sonos, but include Spotify,

SPECIFICATIONS

DRIVERS: 2 x tweeters; 2 x midrange drivers; 1 x bass driver

ONBOARD POWER: Not specified

DIMENSIONS: 137(h) x 402(w) x 194(d)mm

WEIGHT: 3.8kg

FEATURES: Wi-Fi and Bluetooth; Ethernet; 3.5mm input; NFC; TV SoundConnect feature; works with other Samsung multiroom products including BD soundbars; Spotify, Deezer and Napster support; vertical or horizontal speaker alignment

Deezer and Napster. As well as the default MP3, file support across a network includes AAC, WAV, OGG, WMA and FLAC.

Setup and operation is for the most part easy and fun. Sometimes the system is tardy in responding to commands but my main beef with the M7 is its dynamic balance, which favours the low-end too much.

Samsung is coy about the M7's power output but rest assured it has plenty of grunt and a pair can comfortably fill a large-sized room. With three drivers, each M7 speaker delivers a rich, powerful sound. My hi-res download of the Chris Isaak ballad came through with remarkable clarity, especially in the higher frequency range, and the vocals resonated wonderfully without even a hint of distortion. The bass, however, lacks distinction and feels not just disconnected but seems to over-extend. This low-frequency indulgence means that the overture of *West Side Story* (also hi-res) is boomy and unsatisfying rather than spine-tingling. And even experimenting with EQ settings couldn't iron out this niggle.

Cue the action...



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What Hi-Fi? Awards 2014,
'Product of the Year'



Trusted Reviews 'Recommended',
October 2014



AV Forums 'Highly Recommended',
July 2014



Home Cinema Choice 'Best Buy',
July 2014

Sonos Play:1 & Play:3

When many people think 'multiroom audio', they think 'Sonos' – and there's a good reason



WHEN IT COMES to wireless audio streaming Sonos sets the benchmark.

The company has been the top multiroom dog for over a decade thanks to its consistently good products and ease of use. But there are some aspects of the Sonos system that warrant improvement, including a lack of DLNA support.

Recently Sonos had to catch up with the likes of Pure by allowing you to connect to a wireless home network without the use of a hub – although a hub is still a more robust option for multiroom setups. There are two hubs, the Bridge and the Boost, and both create a dedicated wireless mesh network. The Boost is recommended for larger systems as it extends coverage by 50 per cent.

The Sonos ecosystem includes a soundbar, subwoofer, the larger Play:5 speaker (above left) and amps that integrate with legacy hi-fi gear. The Playbar soundbar and Sub can be used with Play speakers to form a 5.1 system. Of more immediate concern to audiophiles thinking of taking the Sonos route for wireless audio is the lack of support for hi-res. Tracks with a sample rate higher than 48kHz simply won't play, which can lead to trouble for anyone with a mixture of unidentifiable standard and hi-res files in their collection.

The Sonos app does make it easy to build playlists, mixing multiple sources such as iTunes on a PC or Mac with songs from an online streaming service, but it can't filter out hi-res files until it tries to play them. On a more positive note, Sonos does support standard-res uncompressed files such as FLAC, ALAC, WAV and AIFF, and will also soon be

compatible with the excellent new Tidal CD-quality streaming service.

Sonos easily leads the way in terms of streaming service support and its control app is fully integrated with scores of platforms including Amazon Cloud Player, Napster, Deezer, Google Play Music, Qobuz, TuneIn, Rdio and of course, Spotify Premium. That integration is key because other systems, such as Samsung's Shape and Pure Jongo, force you to exit their own app and launch Spotify separately, streaming it by using Bluetooth.

Much like the Samsung Shape series, Sonos's system of speakers comprises three models, named the Play:1, Play:3 and Play:5. The entry-level models are mono, but can be paired to take on stereo duties, while the larger speakers can be used alone or as stereo pairs. My test array featured two Play:1s and a Play:3, plus the Bridge.

Build quality of all models is class-leading with impenetrable cheese-grater grilles that should deter curious infant fingers. The only socket is a single Ethernet for connecting to a router or hub (during setup at least). On top are controls for volume adjustment and a play/pause button, which controls all speakers in the same group (not always a good thing) and allows you to leave the house and instantly resume playing the same track even if it's after a two-week holiday. Double pressing the button advances the playlist to the next track.

A decent user guide makes setting up a Sonos system fairly simple, and there's plenty of online support and a rich seam of knowledge in the user forum. The Sonos mobile app is a triumph, listing all sources and

playlists and providing quick access to the playlist manager. You can rapidly group or ungroup speakers and ping out different sources to each room. The desktop version, though, needs an overhaul; its small white font on a dark background almost calls for a magnifying glass (or am I getting old?).

The Play:1 pairing is phenomenally powerful for its size, and it serves up a dynamic and well-balanced soundstage. The Play:3, meanwhile, is punchy enough to be used solo in a room. The bass on Martin Garrix's *Animals* is tight and impactful, whilst higher frequencies have plenty of zest and energy. Everything meshes together with military precision and in terms of volume, the system feels like it has heaps in reserve. An AAC version of *Wicked Game* doesn't have the fluidity of the hi-res original and betrays the Sonos speakers' somewhat clinical delivery.

A hugely enjoyable system, particularly in a multiroom context, but with a few flaws.

SPECIFICATIONS

DRIVERS: 1 x tweeter and 1 x 3.5in midbass driver (Play:1); 1 x tweeter, 2 x midbass drivers and 1 x bass driver (Play:3)

ONBOARD POWER: Not specified

DIMENSIONS: 161(h) x 120(w) x 120(d)mm (Play:1); 132(h) x 268(w) x 160(d)mm (Play:3)

WEIGHT: 1.8kg (Play:1); 2.6kg (Play:3)

FEATURES: Ethernet port; works on Wi-Fi home network or SonosNet mesh network; Amazon Cloud Player, Rdio, Spotify Premium, Qobuz, Deezer, Google Play Music (and more) streaming service support; app controller; FLAC, ALAC, WAV, AIFF, MP3, AAC, WMA; soundbar and subwoofer options

Final standings

MULTIROOM AUDIO HAS been around for yonks but is only now starting to really take off. With the growth in online streaming services, radio on-demand and the move away from MP3 to better-quality digital music formats there's a demand for wireless speakers that can deliver the sonic goods – all over the house.

So which system/hardware works best? Pure's Caskeid Bluetooth/Wi-Fi combination and DLNA integration is versatile but the Connect app is rather unwieldy and the Jongo system annoys by attempting to play hi-res files before rejecting them. The speakers are powerful but aren't the last word in clarity. Samsung's control app is great, plus it supports FLAC and WAV files, but subscription service support is limited. Sonics are clear but booming bass makes it hard to give the M7 a ringing endorsement.

The Bose SoundTouch 20 Series II is nearly perfect in its design, plus it supports hi-res playback. The desktop controller and portable app are beautifully simple, complemented nicely by

a remote and OLED display on the speaker. It's just a pity streaming service options are so meagre and that Android and Windows users are severely hamstrung.

Sonos's Play speakers are a smidgen more superior to Bose's, although some may find them clinical, and the app is second-to-none in terms of its integration with connected sources and a pleasure to use. Yet Sonos could do with refreshing the appearance of the desktop controller, and getting with the hi-res programme.

Audio Pro's consummate-sounding Living range is my pick, despite the expense. RF-based, there are no apps, just external transmitters and remote controls. A bit old-school, but it works – and the sound quality is superb ■

HCC VERDICT



Audio Pro LV22

→ £600 (pair) → www.audiopro.com

HIGHS: Powerful but refined sound; extensive range; well-built; physical remote controls

LOWS: Can't stream from a phone or tablet without additional receiving equipment; expensive

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Bose SoundTouch 20 Series II

→ £350 → www.bose.co.uk

→ Tel: 0800 0859021

HIGHS: AirPlay/Wi-Fi streaming; supports ALAC; OLED display; physical remote control; powerful sonics

LOWS: Lacks refinement; no Bluetooth or DLNA

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Pure Jongo T6X

→ £350 → www.pure.com

→ Tel: 0845 1489001

HIGHS: No hub required; Caskeid Bluetooth compatible with Spotify, etc; simple setup; powerful sound

LOWS: Low bit-rate of Pure Connect service; switching apps can be a faff

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Samsung M7

→ £330 → www.samsung.co.uk

→ Tel: 0330 726 7864

HIGHS: Attractive, durable design; excellent Samsung Multiroom app; exceptional clarity

LOWS: Limited streaming service selection; excessive bass output

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



Audio Pro's Living speaker – pricey, but worth it

HCC VERDICT



Sonos Play:1/Play:3

→ £170/£260 → www.sonos.com

→ Tel: 0808 234 6596

HIGHS: Solid build; tight, powerful sound; impressive app integration; optional subwoofer/soundbar

LOWS: Possibly a bit too clinical sounding; dull design; ignores hi-res

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



Optoma looks on the bright side

Martin Pipe proclaims Optoma's HD151X Full HD projector to be a bright, budget beauty with a surprisingly rich feature count

AV INFO

PRODUCT:

Budget Full HD 3D single-chip DLP projector

POSITION:

Midrange proposition for home use

PEERS:

BenQ W1070+; Epson EH-TW5200; Acer H6510BD

UNTIL QUITE RECENTLY, you could expect to fork out over a grand for a brand-name Full HD projector with 3D capabilities. Now, though, such spec is a much more affordable proposition – Optoma's HD151X retails for just £650.

This is a conventional single-chip-plus-colour-wheel DLP model that boasts a dedicated gaming mode, 24p support and an integrated sound system. If you want 3D, though, you'll need to cough up for glasses. Optoma sells its VESA-standard ones. The HD151X is, however, also compatible with the DLP-Link 3D glasses standard and I found that a pair of Acer DLP-Link spex worked just as well as Optoma's.

Curvily-finished in glossy black with plastic fins and a rounded bulge above the lens, the HD151X is quite an attractive PJ. Practicality hasn't been forgotten, though. The F/2.42-2.98 zoom lens has a 1.37-2.05:1 throw ratio, making the HD151X suitable for most if not all domestic situations. A 2.5m diagonal 16:9

image can, for example, be achieved with a throw of between 3m and 5m, thereby accommodating most UK living rooms. And the HD151X is claimed to give usable images as large as 7.6m, thanks to a powerful 310W UHP lamp that can contribute up to 2,800 Lumens of illumination.

To help you align the image on your screen, the PJ is equipped with a pattern generator, electronic keystone correction (don't use this unless you have to) and vertical lens shift.

Given the low price, it's no surprise the 1.5x zoom and focus controls are manual, rather than motorised. Adjustment is easy enough, though. As an aside, focus on a PJ can drift over time, but over my audition period the Optoma kept it in check, the optical components retaining their stability even as the projector warmed up.

The backlit handset provides an alternative to on-body operating controls. Its collection of buttons may suggest that the HD151X is in possession of two HDMI inputs. This, however,



Definitely impressive

With its ProCinema 600 series, Definitive Technology believes it can deliver a largescale sound from smallscale cabinets. **Danny Phillips** puts this theory to the test

AV INFO

PRODUCT:
Compact 5.1-channel package

POSITION:
A step up from entry-level ProCinema 400

PEERS:
Polk TL1600;
Quad L-ite Plus 5.1;
Wharfedale Diamond 100 HCP

IN AN IDEAL world, every house would have its own bespoke cinema room with space for gigantic floorstanders and fridge-sized subwoofers. But, as the continued film career of Adam Sandler proves, we don't live in an ideal world. Some of us have to compromise with compact speaker systems, like this one from American brand Definitive Technology; these five satellite speakers and subwoofer can be slipped into your living room without taking up acres of carpet.

The obvious downside to compact systems is that they often lack the depth and power of larger speakers, and therefore struggle to convey scale when watching movies. But Definitive Technology reckons the ProCinema 600 bucks the trend with a 'huge' sound, made possible by a driver innovation filtered

down from its high-end speakers. Each satellite is equipped with a 3.25in Balanced Double Surround System (BDSS) woofer, which is pressure-coupled to an identically-sized midbass radiator on top. Definitive says this brings a much-needed boost to the crucial lower midrange frequencies that lend body to voices and musical instruments. High frequencies are handled by a 1in aluminium dome tweeter.

At £500, the ProCinema 600 is a little more expensive than some compact arrays but you can see and feel where the money has gone. The 177mm-high ProMonitor 600 satellites are styled in a seductive gloss-black finish (also available in white) with a curved back-end. They're heavy, robust and sport high-quality gold-plated binding posts on the back.

The horizontally-aligned centre speaker (ProCenter 600) features a 1in tweeter, flanked by two BDSS mid/bass drivers. Again, each of these drivers is coupled to a radiator on the side panels.

The ProSub 600 is a black cube, 330mm high, dressed in a less glamorous but still tasteful matt finish. It has an 8in woofer, prodded by a 250W amplifier. As with the

Considering the size of the speakers, the punchy room-filling performance comes as a pleasant surprise'

satellites, there's an additional radiator here, a passive 8in driver that, says Definitive, results in a total radiating area bigger than a single 10in driver.

Monster munch

The *Godzilla* Blu-ray soundtrack sorts the men from the boys and the ProCinema 600 is more grown up than it looks. When playing its huge action scenes, the soundstage is larger and louder than the sats' modest dimensions would suggest, and the system has no trouble conveying the scale and excitement of the beastie battles.

Inevitably it stops short of the monstrous sound you'd get from larger bookshelf or floorstanding speakers, but considering its size, this punchy, room-filling performance comes as a pleasant surprise.

It sounds particularly impressive during the face-off between Godzilla and the MUTOs at the movie's climax. When the title character slams the MUTO into skyscrapers, the sprightly subwoofer imparts depth to every collision and there's a crisp edge to the crumbling stone.

Vital to this largescale sound are the extra passive radiators on top of each speaker, which do appear to boost the satellites' lower midrange output and ensure a good crossover with the subwoofer. This isn't a system where it's all bass and treble but little in between – the sub and satellites lock together tightly – and when the MUTOs communicate with each other, the fusion of deep bass and warm mids gives their chugging, guttural calls real presence. Similarly, the thundering robo-suit machine guns in *Edge of Tomorrow* have a solid underbelly, and there's convincing depth and body to Tom Cruise's dialogue.

DefTech's claim of a frequency response down to 22Hz for the ProSub 600 is accompanied by a hefty roll off (-3dB at 36Hz). Still, it doesn't disappoint when conveying the deepest bass notes. *Godzilla*

thuds his way around San Francisco with hearty rumbles denoting his swishing tail and a frightening, fulsome roar.

The ProCinema 600 is well integrated in other ways too. The tonally-matched satellites pass effects between channels with relish – when two fighter jets zoom from the left surround channel, across the front and to the right surround, it's with a fluid movement.

The fleet-footed speakers take dynamic shifts in their stride. When a bird breaks the tense silence by thumping into the side of a school bus, there's a fast, heavy thud from the subwoofer and a jolting crack from the satellite enclosures.

And, like the Polk system reviewed in our last issue, the ProCinema 600's sound is remarkably precise and detailed. Scenes are alive with nuances and textures, which makes for an absorbing listen.

Rain is an almost constant presence in *Godzilla* and the speakers' clear treble voicing makes it sound realistic. It's not just a vague hiss – you can hear individual drops splatting. It also adds bite to the Japanese drums and brass in Alexandre Desplat's score.

That said, this clinical presentation can seem forced at times. It won't please fans of a more natural, evenly-balanced sound. Certain high-frequency effects stand out a little more than they should.

Crashing the beach party

The system stays composed under duress. I played the first beach drop sequence from *Edge of Tomorrow* with my Onkyo amp turned up to its reference level of 82dB and the satellites didn't lapse into harshness. Those prominent highs did start to spit slightly, but my eardrums remained largely untroubled.

The sequence is pure cinematic chaos, but the ProCinema array stays focused as Mimics, soldiers and bullets zip about the screen. Every boom, bang and metallic crash is clear and well-defined.

This sense of organisation is also evident with two-channel music. Barb Jungr's jazzy take on *I'm A Believer* is beautifully staged across the front channels – her silky, effusive vocal sits dead centre and stands proudly above the double bass and warm piano chords, while tiny top-end details in the vocals and cello give it the feel of a live performance. It's beefed up by the sats' solid mid/bass output, but I wouldn't advise taking the woofer out of the equation entirely.

Overall, then, this £500 system is easily recommended. The stylish design and robust build quality will make you feel you've got your money's worth even before you've wired them in, and the ProCinema 600 is a terrific performer for a compact system. Its ability to muster such a full-bodied, cohesive sound from its relatively small speakers shouldn't be sniffed at ■

SPECIFICATIONS

PROMONITOR 600

DRIVE UNITS: 1 x 3.25in Balanced Double Surround System (BDSS) mid/bass driver; 1 x 1in pure aluminium dome tweeter; 1 x 3.25in pressure-driven planar bass radiator
ENCLOSURE: Sealed
FREQUENCY RESPONSE: 65Hz-30kHz
SENSITIVITY: 88dB
POWER HANDLING: 150W
DIMENSIONS: 101(w) x 177(h) x 107(d)mm
WEIGHT: Not given

PROCENTER 600

DRIVE UNITS: 2 x 3.25in BDSS mid/bass drivers; 1 x 1in pure aluminium dome tweeter; 2 x 3.25in pressure-driven planar bass radiators
ENCLOSURE: Sealed
FREQUENCY RESPONSE: 55Hz-30kHz
SENSITIVITY: 89dB
POWER HANDLING: 175W
DIMENSIONS: 266(w) x 101(h) x 107(d)mm
WEIGHT: Not given

PROSUB 600 (SUBWOOFER)

DRIVE UNITS: 1 x 8in woofer with polymer cone; 1 x 8in infrasonic radiator
ENCLOSURE: Sealed cabinet
LOW FREQUENCY RESPONSE: 22Hz-150Hz
ON BOARD POWER: 250W
REMOTE CONTROL: No
DIMENSIONS: 263(w) x 330(h) x 330(d)mm
WEIGHT: Not given
CONNECTIONS: Phono LFE input; speaker-level input and output

HCC VERDICT



Definitive Technology ProCinema 600

→ £500 Approx → www.definitivetechnology.com
→ Tel: 08455 618 884

HIGHS: Big sound; good composure and organisation; superb cohesion between sats and sub; clear, precise detail; agile subwoofer
LOWS: Need the subwoofer for music playback; detailing is clinical rather than silky smooth; some may hanker for a wood finish...

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

Curved: the sequel!

First TVs, now soundbars – Samsung is on a mission to remove straight lines from your AV life. But **Adrian Justins** discovers the HW-7501 has more going for it than just its unique form factor



IF YOU OWN a curved TV, especially a Samsung model, and want to use a soundbar, then the HW-7501 in silver (or the HW-H7500 in black) is one of the most attractive options on the market. The alternative – a straight soundbar placed in front of a curved TV – looks about as congruous as George Clooney in a skirt. And the perfect aesthetic alignment of the HW-H7501 with a curved TV isn't limited to tabletop use either; a mounting bracket is provided that can be used to fix Samsung's HU7 (HU7100 aside), HU8 or HU9 series screens to the soundbar, whether used on a wall or stand.

Samsung has placed midrange drivers in both ends of its bendy 'bar. These are joined by six forward-facing drivers – two tweeters at either end, two midrange drivers and a centre channel split into two, to create what Samsung dubiously calls eight channels. A 160W wireless subwoofer completes the 8.1 array.

Build quality is fine; both main unit and sub seem durable enough. An HDMI (ARC) output is joined by HDMI, optical audio, USB and 3.5mm inputs. Bluetooth isn't aptX standard but does allow hookup to a compatible Samsung screen wirelessly.

There are basic operational buttons on top of the soundbar and a scrolling dot matrix display that's legible from across a room. A compact remote allows you to select sound modes and adjust the seven-point EQ.

Performance is decent. There's plenty of clarity in the midrange, especially if Surround Sound mode is left on Auto, where the bar reacts according to the nature of the incoming DD or DTS soundtrack. Birds tweeting, rain pattering and fire crackling during *Dawn of the Planet of the Apes* are all deftly delivered. Dialogue is rich and convincing, although when Gary Oldman barks into a megaphone there's a shrillness that's hardly a treat for the ears. This lack of polish with higher frequencies is also evident with music streamed by Bluetooth and played via USB; the horns of the *Raiders of the Lost Ark* theme tune (a 24-bit/96kHz download) sound harsh against the smoothness of the strings.

Bourne with bass

This system fares better at the other end of the frequency range, where the subwoofer is endowed with more than enough power to shake the dust off your chandeliers. *The Bourne Legacy's* Blu-ray soundtrack comes across with meaty bass, be it during orchestration or specific LFE events; the sub's excellent extension allows it to deliver them all emphatically and with authority, and the remote control makes it easy to tweak the output. It's edge-of-your-seat time.

If you've bought into the curved TV thang, then this is worthy of an audition ■

SPECIFICATIONS

DRIVE UNITS: Eight

AMPLIFICATION: 160W

CONNECTIONS: 1 x HDMI output (ARC); 1 x HDMI input; optical digital audio input; 3.5mm aux input; USB

DOLBY TRUEHD/DTS-HD MA: No

SEPARATE SUB: Yes. 160W, with 6in rear-firing driver (ported)

REMOTE CONTROL: Yes

DIMENSIONS: 1,230(w) x 42(h) x 170(d)mm

WEIGHT: 4kg

FEATURES: Surround processing modes (music, voice, sports, cinema, smart volume, standard); Surround Sound on/off/auto; Dolby Digital and DTS decoding; wall-mounting, wireless sub; Bluetooth; USB multimedia file playback (AAC, MP3, WAV, WMA, OGG, FLAC); multiband EQ; treble, bass, subwoofer adjust; auto switch off if inactive for 25 minutes; AnyNet (CEC)

AV INFO

PRODUCT: Curved soundbar/subwoofer system

POSITION: Samsung's top-of-the-range soundbar

PEERS: Sony HT-ST7; Sonos Playbar; LG HS6

HCC VERDICT

Samsung HW-7501

→ £600 Approx → www.samsung.co.uk

→ Tel: 0330 726 7864

HIGHS: Neat looks; powerful and articulate subwoofer; handles layered mixes well

LOWS: High frequencies can be shrill; Bluetooth lacks aptX

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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The little TV with the big idea

UK telly marque Linsar brings back the idea of chunky TV speakers. **Adrian Justins** approves

MOST SOUNDBARS ARE too wide for practical use with screens under 32in. So what do you do if you're making a 24in TV? Linsar's obvious solution is to include the soundbar in the screen's design. And, as you can guess from its name, the 24in X24-DVD also packs in a DVD deck, making it tempting for use in the bedroom or kitchen.

Linsar's EPG, GUI and remote are all user-friendly and this 1080p-resolution TV packs more than enough brightness, contrast and colour punch to appeal. There's a standard Smart portal offered (with BBC iPlayer, YouTube, etc); Linsar has been offering a free Roku stick with many of its screens, so check its website to see if the deal is still running when you purchase.

The 2 x 10W power output of the onboard soundbar is nothing extraordinary but rather than using tiny drivers that face away from the listener the X24-DVD has chunky speakers



that face forwards. The difference is palpable. Even with regular daytime fodder voices are weighty and have a much more effortless acoustic reach than most flatscreens. More complex soundtracks, such as *Game of Thrones*, retain this full-bodied quality and are reasonably detailed.

Inputs include dual HDMI, plus Bluetooth

Volume varies hugely between sources (which generously includes Bluetooth). I found DVD playback from the built-in drive needed cranking right up, but happily remained free of distortion, even with the ramping flames during Chapter 6 of *The Incredibles*.

It's a shame the deck is DVD rather than BD, but all in all, this is a brilliant little set that's hard to fault. I look forward to seeing what else Linsar has up its sleeve ■

HCC VERDICT

Linsar X24-DVD → £300

Overall ★★★★★

PANASONIC HC-X1000 → Approx £2,500

Prosumer 4K cam ready for anything

Panasonic's HC-X1000 is an advanced semi-pro 4K shooter. **Steve May** turns Spielberg

WHILE COMMERCIAL 4K content is still a slow burn, DIY 4K is evolving at a rate of knots. And in the shape of Panasonic's HC-X1000, the well-heeled can open the doors to no-compromise film-making.

Utilising technology rippled down from Panasonic's broadcast division, the DNA behind the HC-X1000 is impeccable. It shoots high bitrate Full HD and 4K, and boasts a 20x optical zoom and 29.5mm wide angle Leica Dicomar lens. UHD (3,840 x 2,160) and Cinema 4K (4,096 x 2,160) is recorded in MOV and MP4 formats, via a 1/2.3 MOS sensor.

For 4K TV owners, the HC-X1000 is an enticing proposition and even if your screen is 1080p, using 4K for acquisition makes sense. You can also use recordings to grab still images from the 8MP sensor. Picture quality is stunningly good, with extreme detail, rich colours and zero lens distortion.

The 1,550g HC-X1000 handles well, thanks to good balance, while the large touchscreen

4K video at 60p is supported

monitor is crisp and legible, even in daylight. Low-light recording sensitivity is fine (around four lux); image processing is via the brand's Crystal Engine Pro 4K. There's highly effective Power OIS image stabilisation for recording 4K, and a hybrid optical/electrical stabilisation mode when shooting in Full HD. The camcorder sports two SD card slots, with the second offering continual shooting backup in Full HD, another pro-style refinement. Expect to capture 55 minutes of 2,160p60 footage on a 64GB card.

In short, this an extraordinarily well-specified camcorder that's a step up from the point-n-shoot brigade. Wedding videographers, low-budget film-makers and enthusiastic amateurs will be smitten ■



HCC VERDICT

Panasonic HC-X1000 → £2,500

Overall ★★★★★

JVC

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DLA-X700R has been awarded:



* The 2014 range of JVC D-ILA Projectors consists of model numbers DLA-X900R, DLA-X700R, DLA-X500R. Visit www.jvc.co.uk for more details. ** Contrast ratio specifications are for the DLA-X900R. 3840x2160 (4K e-shift3 – not native 4K).

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Stand and deliver

Mark Craven rearranges his living room to accommodate this sizable slab of AV furniture with built-in 2.1-channel audio system

AV INFO

PRODUCT:
TV stand/AV cabinet with onboard audio

POSITION:
Just one of many furniture options in Techlink's range

PEERS:
Somle Silent;
Artcooustic Linax subwoofer

TECHLINK IS A brand with fingers in all sorts of AV pies – its product range currently includes dedicated Apple device peripherals, analogue and digital cabling, cleaning products, portable USB chargers and AV furniture and wall-mounting solutions.

Sit down to browse the Techlink furniture catalogue, though, and you're in for a long night. It offers over 20 different lines, hoping to cater for whatever taste you may have and space available.

The M series, of which the Audio Base is a part, is perhaps its most interesting. Targeted at the 'larger AV setup', it's a modular offering allowing buyers to mix and match low-slung cabinetry with TV and shelf panels, and includes the model on test here, which packs its own audio system (a version of the Base *sans* speakers/amplification is also an option).

The Audio Base measures an architect-bothering 1.7m across. Techlink suggests

this is space enough for a flatscreen up to 84in – I'll take its word for it. The company also says its top surface can stand a weight of up to 60kg.

Facing the music

The front panel is split into five sections. There are two storage areas, each behind a tempered glass screen that drops down on smooth hinges when it's given a gentle push to unlock the mechanism. Each storage space measures 490mm across and 340mm deep, with a shelf dividing it top and bottom. You can, thankfully, remove the shelf if you wanted to slot in an AVR. Holes in the back panel provide paths for cabling – and ventilation.

Flanking the two storage areas are speakers and subwoofer, although the only indication you get is the black cloth grilles. The sub takes up residence in the middle; the left/right speakers are positioned at each end, which should improve the stereo

presentation. Each is a two-way design, with a mid-range driver positioned underneath a tweeter. Somewhat inelegantly, cabling around the back connects the speakers to the central amp section – it's not hidden inside. However, this does mean you can plug in your own stereo speakers and not use those onboard.

As well as aptX, Bluetooth here supports the AVRCP protocol enabling remote control of your source device via the Techlink zapper, which is a slender, but quite weighty, black number with obvious buttonry.

The lowdown on low frequencies

The most instantly appealing aspect of the Techlink's performance is its bass presence. Whipping the grille off that centralised

'The soundstage is broad and potent, with bass and volume talents rarely found on a soundbar'

subwoofer may only reveal a 5.5in driver (alongside a front port), but it's certainly efficient at infusing music and movie material with low-frequency heft.

I started with some music, first via Bluetooth from a MacBook and Samsung Galaxy phone, then some CD titles. The funereal bass-heavy intro to Machine Head's *Sail Into The Black* showed the Audio Base's default setting to be a little, well, bass-heavy too, but dialling it down via the handset quickly solved the issue.

From then on, the Oakland thrashers' eight-minute epic sounded rather tasty good via the Techlink, with a decent sense of scale to proceedings and enough drive from the onboard amp stage (rated at 2 x 40W, plus

80W for the woofer) to handle the crunching guitar riffs that kick in at the midpoint.

Moving on to *Lil' Devil* (The Cult, CD) revealed a strong mid-range and an impressive stereo soundstage. Billy Duffy's opening licks were pinned wide left before Ian Astbury's vocals emerged dead centre. However, I began to notice a soft edge to the treble details. Hi-hats, while distinct rather than mushy, seemed weak in the mix. All-round, however, it was enjoyable.

The same can be said with movie soundtracks, although minor caveats do apply. WW2 tank drama *Fury* (see p98) has choice scenes when it comes to sonic punch, and the M Series Audio Base easily rises to the occasion, with solid impacts to artillery fire and efficient (although slightly localised) subwoofer rumbling when the tanks are on the move. With its 2.1-channel bent, you of course miss the sense of wraparound sound that the film's multichannel mix can deliver in a cinema setup, but you don't miss the thrill that comes from listening to something large and loud. The M Series Audio Base can reach a decent volume and remain balanced, although there's a hardening up of its sound as you get to its upper limits.

A concern with the Techlink is that, while the soundstage is broad and potent, it's also quite low down. Dolby and chums suggest your cinema speakers' tweeters should be positioned at ear height, not level with your shins, but the form factor of the M1 Audio Base can't be worked around. Even a soundbase or soundbar speaker is likely to be a good distance higher off the floor.

Finding the space for the Base

Techlink's M Series Audio Base is a niche proposition – many people in the market for AV furniture will deem it simply too big for their space. However, the design, which favours elegance rather than catwalk looks, is easy on the eye, particularly in the white/black of our sample (wood is also an option). Therefore, if you have the physical space for its footprint, it won't overwhelm the rest of your room.

So what is it? Well, it's a TV stand with built-in audio. So, in that regard, it's possibly the world's largest soundbase speaker, with some storage space thrown in for good measure. Maybe does the Techlink a disservice, but the soundbase comparison is a good one, as its audio performance is more akin to a decent soundbase than a slinky soundbar – its bass output and volume talents, in particular, are rarely found on the latter.

And, like much of the better performing soundbases around, it has a few feature shortfalls – there are no DSP modes to sink your teeth into, EQ is basic and the lack of HDMI connectivity will require your flatscreen to operate as your switching hub. Bear that in mind and buyers should be happy ■

SPECIFICATIONS

DRIVERS: 2 x tweeters; 2 x midbass drivers; 1 x 5.5in bass driver

AMPLIFICATION: 2 x 40W + 80W

CONNECTIONS: 3.5mm input; optical digital audio input; coaxial digital audio input; analogue stereo phono; Bluetooth; speaker terminals

DIMENSIONS: 1,700(w) x 360(h) x 445(d)mm

WEIGHT: NA

FEATURES: Rated to support screens up to 60kg/84in; twin internal storage areas with adjustable shelving and cable management; speaker terminals allow external speakers; compatible with M Series TV Panel and M Series Shelf Panel; remote control

You can also use the amps to drive external speakers



HCC VERDICT

Techlink M Series Audio Base

→ £500 Approx → www.techlink.uk.com

→ Tel: 01732 779400

HIGHS: Impressive low frequencies; wide stereo image; design and build are generally good; handy Bluetooth capability

LOWS: No HDMI connectivity; no sound preset modes; will be too big for some rooms

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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DIGITAL COPY

Mark Craven wonders if the quick pace of change in the home cinema world means the time is right for enthusiasts to start renting – rather than buying – their new hardware

WHEN I WAS much younger, and actually had a full head of hair, I remember heading down to the high street with my housemates and renting a TV and video recorder. Being students, we were all too poor to actually buy a television, but by clubbing together a few quid we were able to return to our pokey flat with a 28in CRT TV (with external speakers!) and natty VHS deck. The rental period lasted 12 months – when it was over, we simply handed the kit back and moved on with our baked bean-fuelled lives.

I'm reminiscing about this because, while at CES, I was struck by the rapid development in Smart TVs, and began to feel sorry for anyone who has just bought, say, a 2014 Sony set. The new Android TVs appear to knock the previous UI into a cocked hat. But buy a TV and you're stuck with it. Rent one, however...

So what happened to the TV rental market in the UK? It certainly fell on hard times. Many will remember the glory days of Radio Rentals and Granada TV rental, but at some point, probably around the late 90s, the notion of renting, rather than buying, flew out of fashion. You can still get your electronic thrills this way, thanks mostly to retailer Hughes and its sister company Dial A TV, but I don't know anyone who does.

Yet maybe we should, as flatscreen technology seems to be developing faster than we can keep up with it. 4K resolution, High Dynamic Range, new Smart hubs – all these **innovations will soon make most TVs purchased in the last couple of years look woefully old-fashioned**. Wouldn't it be great to know that you could just swap your flat/curved screen for a newer model every year? That's essentially how the smartphone market works. Sure, some with

deep pockets buy a new handset every year, but the majority pay a fixed line rental fee in exchange for a free handset. In six months I'll be able to get a faster, slicker, shinier Android phone than the one I've been using for the last year. (Unlike the TV rental game, you do actually get to hold on to your smartphone. The idea being that you keep it in mint condition and then sell it on second-hand at the end of the contract. However, if you're like me, you drop it on the floor during the first week of ownership and completely obliterate its resale value. But I digress).

The price is... wrong

So how much would a reasonable monthly rental fee be for a top-flight 4K telly? That's the tricky part. I've seen a 55in curved Full HD set offered for £90 a month (£1,080 a year – maybe it's a cunning in-joke). This, for a TV with an original purchase price of around £2,000, seems a little high. Charge the same for a 4K model with a £3,000 ticket and it could be tempting, particularly when you consider what such a TV would be worth second-hand in a couple of years. I don't see that happening, though. People just love buying things outright, even if it means they end up with a worthless lump of metal, glass and plastic somewhere down the line. And if there really was a sweet spot for retailers, manufacturers and consumers for TV rental to flourish like the old days, then it would probably already be happening. Still, with early adopters getting a bit of a raw deal at the moment (and that includes those who've signed up to Dolby Atmos), and it might be worth a bit of investigation ■

Are you worried that your new hardware purchase may quickly be out of date? Email letters@homecinemachoice.com

Mark Craven also remembers the days of renting movies on VHS, and is pretty certain he still owes Blockbuster a fee for not rewinding a tape





FILM FANATIC

After spending his spare time poking around the BBFC website, **Anton van Beek** is growing concerned about the policy of pre-cutting films for cinema release

FOR MANY FILM fans who grew up in the era of the 'Video Nasty', the British Board of Film Classification's decision last year to pass Jörg Buttgerit's controversial cult classic *Nekromantik* uncut for home viewing in the UK can be viewed as something of a fresh watershed for the softening of censorship restrictions on these shores. However, 2014 also saw the BBFC having what may well be its biggest impact on mainstream movies in decades, one prompted by film distributors' desires to reach ever-wider audiences for their content.

If, like me, you spend a lot of time checking out the BBFC's official website (www.bbfc.co.uk) then you'll have seen more and more references to 'Precuts Information' on the pages for films that have been through the certification process. This relates to a service the BBFC provides where distributors can submit rough cuts of a film during the production process – or even scripts – and seek advice on how to achieve a specific age rating. In a way it harks back to the days when the BBFC would actually vet the scripts of British films prior to production commencing.

Still confused? Well, let's take a look at Paul Anderson's historical epic *Pompeii*. While the main listing at the top of the relevant page on the BBFC's website (<http://www.bbfc.co.uk/releases/pompeii-2014#bbfcinsight>) states 'All known versions of this work passed uncut', scroll down a little further on the page and the actual situation becomes a little more complicated. The reason no cuts were made to achieve a 12A rating when *Pompeii* was officially submitted for classification is because the BBFC had already seen it during production.

According to the BBFC site: 'During post-production, the distributor sought and was given advice on how to secure the desired classification.'

Following this advice, certain changes were made prior to submission... The company was advised to reduce stronger moments of violence where there was a dwelling on particular acts and to reduce the emphasis on blood on bladed weapons.'

Now, while possibly annoying for gore-hounds, **such desire to achieve a specific (less restrictive) rating for a film's UK cinema release isn't really that much of a problem.** After all, when it comes time for the eventual DVD/Blu-ray release, the distributors frequently go back to the uncut version of the film (as happened with the 'Extended Harder Cut' of *Taken 2* in the UK). And if that doesn't happen, then there's always the option of importing the uncut version on disc from abroad.

However, we're starting to get to the point where such outcomes may not be possible. In the case of *Pompeii*, the UK pre-cut version of the film was the one that was subsequently used worldwide, as comparisons with the US PG-13 Blu-ray release have proved. In other words, thanks to the distributor's desire to secure a specific cinema rating here in the UK, the entire world has to put up with the same censored incarnation of the film. Furthermore, there may even be no uncut version available for a future release. All that blood on a bladed weapon becomes just a screenwriter's dream.

The list of films being pre-cut is growing. *Taken 3* and *Kingsman: The Secret Service* are two of the more high-profile examples of the past few months and more will undoubtedly follow. This isn't the fault of the BBFC, but of studios desperate to reach as wide an audience as possible, rather than sticking with a film's original vision ■

Is Hollywood right to seek 12A ratings for its action movies? Let us know: email letters@homecinemachoice.com

Anton van Beek expects the next *Taken* movie to be a U-rated family caper that sees Bryan Mills and daughter 'taken' to Disneyland for a nice holiday



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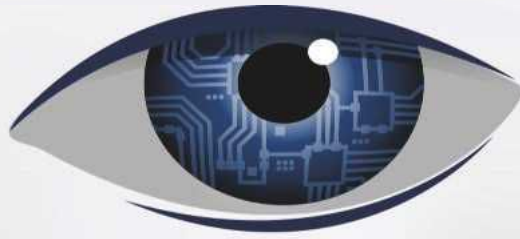
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Photo: Arteoustic SA and Sphere Custom Design

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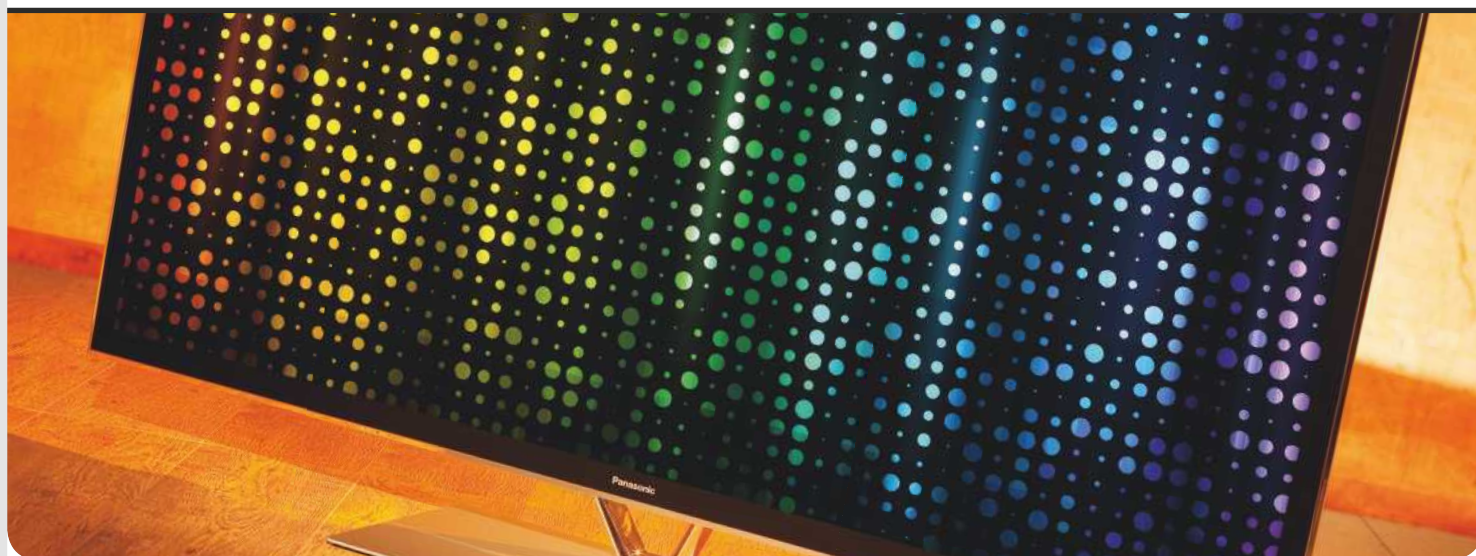
To learn how fibre optic and LED lighting can feature in your project phone 01289 332900 and speak to John or Peter, or e-mail info@starscape.co.uk. See the website for step-by-step home cinema lighting project reports.



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PICTURE THIS

Although they're a dying breed, calibrator **Vincent Teoh** explains why plasma televisions will always have a special place in his heart...

IT HAPPENS LESS these days as the market is awash with LED LCDs, but nothing beats the warm feeling I get during calibration when I know the TV at the end of my measurement probe is a plasma.

The Imaging Science Foundation – which trains and certifies ISF calibrators – ranks in order of importance the following factors that influence picture quality: 1) Contrast ratio/dynamic range; 2) Colour saturation; 3) Colour accuracy; and 4) Resolution. A big part of plasma's appeal is undoubtedly the prodigious blacks it produces. Not only is this key to its superb contrast performance, it also serves as the ideal canvas for colours to flourish with a richness you'll never see on lesser displays.

Of course, OLED TVs already eclipse plasmas in outright black level, and most LED LCDs can switch their backlight off when displaying a full black screen, but what defines plasma is its ability to render shadow detail even in the darkest crevices with uncanny clarity while maintaining a deep shade of black across the entire screen. LG's current OLEDs suffer from black crush along the sides, whereas with LED TVs you'll get shallower blacks, haloing, crushed shadow detail or backlight fluctuation.

Poetry in motion

Another attribute which sets plasma apart is its motion clarity that cannot be matched, let alone surpassed, by even OLED displays boasting insanely fast pixel response times. The difference lies in the way each display draws its image. LED and OLED TVs hold every frame continuously until the next frame, causing motion blur due to the persistence of the preceding frame in our retina. On the other hand, plasmas – just like CRT TVs – render frames using phosphors whose natural decay process introduces fade-to-black intervals that effectively reset our

retinal persistence, thus explaining their inherently high motion resolution. For watching fast-action sports like football, plasma is king.

Two more characteristics of plasma TVs that don't get enough credit are their excellent screen uniformity and wide viewing angles. Although not found among ISF's list of PQ-influencing factors, these two attributes affect black level and colour fidelity in ways you might not have thought of.

How many times have you seen the blacks on LED TVs blighted by clouding or corner bleed? And have you ever sat off-centre from an LED TV and wondered why the colours look so desaturated? OLED TVs fare better on both counts, but even LG's OLEDs exhibit colour uniformity issues, and take on a green tint off-axis. **Only plasmas feature immaculate screen uniformity**, and can hang onto their inky blacks and vibrant colours when watched from the sides – the impact this has on the viewing experience can't be overstated.

That's not to say plasma technology is without flaws: image retention, higher power consumption, white-screen buzzing, rainbow trails on high-contrast scenes (some viewers are more sensitive to this) and capped brightness are a few that pop to mind. But when it comes to things that matter to a videophile, plasma delivers, and it delivers in spades.

So why do I get such a buzz whenever I'm fine-tuning a plasma? Maybe it's because I can envision how great the final picture will be. Maybe it's because I'm helping someone – especially if it's a Pioneer Kuro or Panasonic ZT (pictured) owner – who truly appreciates good image quality. Or maybe it's because I'm cherishing every moment with a dying breed of awesome displays ■

Do you still own a plasma TV? Thinking of upgrading? Let us know: email letters@homecinemachoice.com

Vincent Teoh has worked as a professional video calibrator for seven years and has the world's biggest plasma TV collection in his attic



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Meet The LindoPlex...

James Lindfield achieved his dream of a dedicated cinema room by converting his garage. Now he's keeping eyes on 4K and Dolby Atmos and kicking back with *Days of Thunder* on Blu-ray



AV-holic James says it's important his garage cinema feels like part of the house

Introduce yourself...

I'm James Lindfield, 32. I work as a telecoms and IT service manager.

How long have you been into home cinema? What was the first AV setup you had?

I've been an AV addict as long as I can remember. I had a 32in Panasonic CRT TV crammed into my bedroom. My parents bought me a Bose Acoustimass system while we were on holiday in the United States – I remember cramming it all in a suitcase. And I was the first person in our town to buy a DVD player (and you could only buy three films at the time. Oh, how things change!). Later on my Mum and Dad let me convert a room underneath their garage into a dedicated

room with a big rear-projection TV and 5.1 audio. My own first house never allowed me the space, but when me and my wife moved into a bigger place, I always knew I'd get the dedicated room I dreamt of. And a year later, The LindoPlex, as I call it, was born.

Whereabouts in your house is The LindoPlex?

The LindoPlex is a garage conversion! It used to be full of junk so it's a good use of the space.

What kit do you have in the system?

The projector is from Epson – an EH-TW6100. It's used with a 100in Elite Screens VMAX2 drop-down electric screen. For the audio I have a Sony STR-DN1040 AV receiver and the Q Acoustics Q7000i system. Feeding all

this are a Panasonic DMP-BDT220 Blu-ray player, Sony PlayStation 4, Sky+HD box (2TB) and an Intel NUC i3, with 8GB RAM, running XBMC over OpenElec for additional media playing duties. All the speaker cables are Van Damme Studio Blue – 2.5mm at rear, 4mm at the front.

Is the speaker setup 5.1?

I'm running a 5.1 setup at the moment, but the room is wired for 7.1. I might put those cables to use for a 5.1.4 Atmos upgrade rather than 7.1, actually.

What's your opinion of the system's performance? Is there anything you think could be improved?

I'm really chuffed with how it turned out. The picture from the Epson is crisp and feels real; some of the modern OLED flatscreens can be too crisp and feel a bit fake. The sound encases you in the movie, and is excellent for gaming. I took back a DLP projector as all I could see were the dreaded rainbows. Epson's 3LCD approach is much better for me.

Also, I had to make some DIY sound-deadening panels as the room felt a bit live. They have really enhanced the audio, after many hours and days spent experimenting with speaker positions and other tweaks. The best thing I did was paint the ceiling and walls in a nice shade of dark grey.

How did you choose the kit?

Initially from reading magazine reviews, then I'd hit the demo rooms, then I'd work out the pricing and go for the option that suited the



Before being converted to a movie palace, the LindoPlex was an internal garage filled with what owner James describes as 'junk'



The makeover of the 16.5ft x 8.5ft space included installation of a soundproofed window and dual-layer acoustic soundboard with Green Glue in between

budget and performance the best. My wife came along with me, but would soon get bored with all the talk of drivers, tweeters, contrast ratios, etc, so I had to make quick decisions before she took the credit card away. Luckily she didn't seem to mind spending a bit more to get the best quality. 'Buy cheap, buy twice,' as they say.

How much have you spent on the room?

The initial conversion was around £2,500, which included a soundproofed window and soundproofing the room. It's an internal garage (16.5ft x 8.5ft) and soundproofing was important, so I used an isolated construction and Green Glue between two layers of acoustic sound board.

I had to make some compromises as the cinema room is very much part of the house. For instance, all the lighting is fixed to the wall, rather than spot-lights in the ceiling, >



An Epson LCD projector is mounted on the rear wall – James did audition a DLP PJ, but was distracted by the rainbow effect



There's space in this 8.5ft-wide room for authentic seating

to make sure no sound leaks to elsewhere in the house.

I won't tell you the total kit spend as the wife will read this, but I'm sure the average reader of this fine magazine knows how much the stuff on the list costs!

What do friends and family think of the conversion?

They love it! It can get a bit cosy with six people in there, but it's great to get everyone together for a good movie. The popcorn containers and cardboard Coke cups come out for the special 'must-see' flicks.

What's your favourite Blu-ray?

My guilty pleasure has always been *Days of Thunder*. Although, as a teenager, me and my best mate would watch anything with Jean-Claude Van Damme, Steven Seagal or big explosions and action. Oh, and *Bad Boys*!

Do you watch any movies or TV programmes from download or streaming platforms?

No, I like to watch films as soon as they come out, so I tend to save on the subscription costs.

If you want to really show off your system, what titles do you use?

It has to be *Avatar* or *Gravity*. The visuals and soundmixes on both Blu-rays are truly awesome. I also love the train station and crash scene on *Super 8*. That really stretches the LindoPlex to its limits.

SHARE YOUR SYSTEM IN THE MAG!

IF YOU WANT TO BE THE NEXT 'AV-HOLIC' IN HCC, you'll need to send us some hi-res images of your cinema room. The better-quality image we get, the better your room will look. So follow these simple steps:

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch movies in the dark, our

cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.

4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. We'd love a picture of yourself – unless you want to remain anonymous...

6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Email your selection of images to letters@homecinemachoice.com with the subject heading 'AV-Holic'. Provide us with some information about your setup and we'll then be back in touch.



James is using Sony amplification with Q Acoustics speakers

What's your favourite bit of kit, and why?

Its got to be my Intel NUC HTPC running XBMC. It's really great for archiving movies and having everything to hand. Although, for raw quality, you can't beat a Blu-ray.

What's next on your equipment wishlist, and why?

4K, Dolby Atmos, a bigger room – not necessarily in that order. I'm lucky to have the room. My wife is very understanding of how important it is to me. We're expecting twins (they should be here by the time this is

published!) and she has amazingly just signed off on a new five-year 'lease', which is great news as she was eyeing it up as a play room. I doubt any major upgrades will happen any time soon, but I'm sure the twins will keep me busy and what's better than kids' movies on a 100in screen?

Lastly, are you excited by 4K/Ultra HD?

Yes, although I will await for a drop in price of the technology before considering it. I'm happy with everything about my system at the moment! ■

...And blag an AudioQuest Pearl HDMI cable!

The kind people at cable king AudioQuest are giving away a two-metre Pearl HDMI cable to our AV-holic each month. The Pearl, which retails for £34, uses long-grain copper conductors and a foamed polyethylene insulation for a robust construction. All AudioQuest HDMI cables up to 10 metres meet or exceed the 10.2Gbps maximum data rate for HDMI and are approved High Speed with Ethernet cables.



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Want to share your knowledge with our readers? **HCC** is here to help

Don't forget 3D discs!

I recently read your reviews of *Guardians of the Galaxy* and *Transformers: Age of Extinction*. Good reviews as usual but they were missing the inclusion of the 3D versions. I know, to some, 3D is considered (wrongly) as a dying breed, but to others like myself, watching a 3D movie on a 3D projector has no substitute, especially at a screen size of 120in. And this makes it even more important when purchasing your magazine. I want to read reviews for both versions (if available) of a movie.

I own both of these titles in 2D and 3D. The different versions are

like chalk and cheese. With *Guardians of the Galaxy*, the 3D version switches from 2.40:1 for the less 'visual' parts of the film to full-blown, screen-filling, immersive 16:9 3D for the spectacular elements. The switch happens very frequently, and after watching the movie with black bars top and bottom – as you get with the 2D version – the flip to 16:9 is even more spectacular. The downside of the 3D is that it is darker than 2D, but this is normal, and a few tweaks of my projector settings can remedy it.

This kind of information is vital for the viewer to make decisions before purchasing either the

3D/2D set or the basic standalone 2D Blu-ray. Perhaps to someone with a screen size less than 42in it may not be such an issue, but as most 3D projectors are half the price of the equivalent TV with half the comparable screen size, this should be a must to include in the review.

As a 3D PJ owner I much prefer the 16:9 aspect ratio, particularly with films like *Pacific Rim* and *Avatar* to name a couple. And I can now include *Guardians of the Galaxy* and *Transformers AoE* on that list. 16:9 rules for 3D!

Love the mag. Keep up the good work.

Steven Williams, Swansea



3D Blu-rays: we always aim to review them when available!

Anton van Beek replies:
Hi Steven, thanks for the input. With both those titles, our hands were somewhat tied in that the studios only sent out 2D versions

★ STAR LETTER...

Why don't new TVs support 4K 3D?

I am considering purchasing the Panasonic TX-65AX902, but before buying anything like this, I always try to research it as completely as possible. That includes downloading the User Manual, as I have frequently found aspects of the spec that make the product unsuitable for my use.

This expensive TV is no exception, as I was alarmed to read the following note on page 39 of the manual under Valid 4K Format: '3D content of 4K format is not supported.'

Pardon? Does this mean that when 4K Blu-rays eventually become available, this new wonder TV will not be able to play any 3D 4K discs? If so, what is the point of buying it? I sure as hell don't expect to have to dump it in a year's time and have to buy another one. After all, one of the key plus points about 4K is the 3D performance.

I emailed Panasonic support to query this statement and was somewhat horrified to receive the following reply: 'In regards to the 4K 3D format, unfortunately there is no official information regarding the future availability of this feature.'

Unbelievable!
John Millns, via email

Steve May replies: It appears Panasonic can't guarantee compatibility with any 4K 3D format for its UHD TVs simply because there is no agreed standard for any home 3D 4K format just yet. This isn't a particular failing of the Panasonic AX902 range, but applies equally to all 4K sets from all manufacturers currently available, pending possible hardware or firmware solutions.

In truth, it's looking unlikely that we'll see any 2,160p resolution 3D for the home any time soon. The Blu-ray Disc Association, in its draft specification for the new UHD Blu-ray format, has already ruled 4K 3D discs out of the standard. Netflix and Amazon, which offer 4K resolution streaming services, similarly do not support 3D. It remains to be seen if broadcasters adopt it.

I talked to Panasonic chief engineer Kazuhiko Kouno, responsible for 4K

Blu-ray player development, about the situation. He was sanguine about the lack of support for 4K 3D. 'We are at an almost final specification for the next-generation Blu-ray standard and as it stands at the moment, it does not support 4K 3D. However, it's my personal opinion that 3D doesn't need such a high resolution.'

The reason why 4K 3D has been benched is not because of any perceived lack of interest in three-dimensional movies, he adds, more the sheer cost of implementing a processor powerful enough to handle stereoscopic 4K. 'I think it would be too expensive to commercialise,' explained Kouno-san.

The 4K Blu-ray format will, of course, remain compatible with regular 3D Blu-ray releases, which as we know look spectacular when upscaled. For





for review before release. Obviously, wherever possible, we like to look at both 2D and 3D iterations – as you say, there can be real visual differences between the two – but with *Guardians...* and *Transformers...* we decided to review off the 2D studio-supplied disc rather

the record, the new 4K disc iterations supported by UHD Blu-ray comprise regular 4K titles, 4K content mastered in High Dynamic Range, and Full HD/2K content also in HDR.

So if you really want to futureproof your next TV set, you shouldn't be focusing on 4K 3D compatible TVs, but 4K UHD TVs capable of HDR – of which there are precisely none. We've been told that HDR 4K televisions will appear this year, but specifics are disappointingly vague, again because agreed standards for display, content authoring and distribution just don't exist yet.

Star letter-writer John wins a copy of *The Book of Life* on Blu-ray 3D, courtesy of Twentieth Century Fox Home Entertainment. *The Book of Life* is available to buy from February 16 on DVD, Blu-ray and Blu-ray 3D.

than delaying until the 3D title was released in shops. We do frequently purchase discs for review – particularly US imports – but for key titles we hate to wait!

Dolby Atmos: A letdown?

I'm very disappointed with the number of Dolby Atmos Blu-ray discs released so far.

I took delivery of *Step Up 5: All In* this morning. I only purchased it because of the touted Dolby Atmos soundtrack (American teen dance movies are not my cup of tea).

However, the UK has been short-changed, as Dolby Atmos is completely absent. Unlike the US edition, here we just get bog-standard DTS-HD MA.

So at the time of writing we have only *Transformers 4* and *The Expendables 3*, and *Teenage Mutant Ninja Turtles* on the way.

I was really hoping for Atmos on *Guardians of the Galaxy* and *Dawn of the Planet of the Apes*. But again, we just get DTS-HD MA. What's going on? Where's the content?

So far Atmos in the home certainly isn't living up to expectations. I'm feeling very short-changed for my £3,600 investment in a new AVR and ceiling speakers.

Can you try and get some answers direct from Dolby as to why movies that were released

cinematically with an Atmos soundtrack haven't been released on Blu-ray with Atmos?

'It's the studio's decision' is not an acceptable answer – Dolby should be going all-out to make it happen, or it will fail. They've only got one chance to make it a success.

I'm sure other readers would really like to know what's going on. *James Willmott, via email*

Mark Craven replies: Certainly, the drip feed of Dolby Atmos-encoded Blu-rays is a pain for early adopters, particularly with discrepancies between UK and US editions of rubbish dance sequels, and films such as *Hercules*, which were announced as being released with Atmos, but then weren't, as far as we can tell. And you're not the only HCC reader expressing concern.

Unfortunately, 'it's the studio's decision' is pretty much the best on-record answer we can get from Dolby, and neither are the studios forthcoming. Regarding *Guardians of the Galaxy* and *Dawn of the Planet of the Apes*, it's possible both films were too far into their home media workflow to allow for Dolby Atmos soundtracks on their BD releases. If so, it's unfortunate. There is also a possibility that Fox and Disney have an eye on DTS:X. Exactly how this next-gen format will

work in the home, particularly with existing Atmos speaker setups, is still unclear while we wait for DTS to make its official launch.

We expect that – like us – you're keeping a keen eye on software announcements to see if the Atmos catalogue picks up pace. As you'll see from p14, Lionsgate is following *The Expendables 3* with *The Hunger Games – Mockingjay Pt 1*. Meanwhile Warner Bros' *Gravity* is being re-released at the end of March with an Atmos encode. So we're now waiting to see whether the likes of *American Sniper*, *Taken 3* and *Exodus: Gods and Kings* will be Atmos-flavoured on Blu-ray.

Firmware failure

Referring to the *Point of View* article by Richard Stevenson in HCC #243, it irked me that he was espousing the benefits of upgrading firmware. I have a Sony Blu-ray player (BDP-S580) and >

CONTACT US...

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Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

have endeavoured to keep it up-to-date at all times. Now that sounds fine to start with but imagine my surprise when one day I go looking for BBC iPlayer and find that it is no longer available on this deck. It appears that the BBC no longer supports the bigscreen version of this wonderful software due to 'resource limitations.'

I am not at all happy at the way this was discovered. Firstly, there was no prior warning that this was going to happen. I do not recall seeing any articles anywhere alerting users to this change. I only found out why this happened after a search on the iPlayer website. Secondly, this means that my BD spinner no longer 'does what it says on the tin.' How can this be allowed to happen at all? I now wonder if there is a breach of the Trades Description Act, as it quite clearly states that the BBC iPlayer is pre-installed on this (and I suspect many other) Blu-ray players.

Fortunately I have a Sky+HD 2TB box, which allows me to use the catch-up services supplied with it. But there will be people who are not so lucky.

Okay, you could use a tablet or PC and connect it to your TV and watch iPlayer that way, but surely that negates the whole point of the convenience that iPlayer is supposed to offer?

I wonder how many other services will be removed from Smart TVs, BD players, etc, in the future.

A step backwards is not good for the home cinema enthusiast and does no good for the reputation of the manufacturers who are trying to sell their goods by extolling the virtues of pre-installed apps.

Let's hope this is an isolated incident...

Steve Old, via email

Mark Craven replies: In fairness to Richard, firmware updates can be a good thing. Vital, even, in keeping hardware up-to-date.

Unfortunately, the system does have its flaws, ranging from firmware updates that don't actually appear to change the user experience at all, to firmware updates that knock out existing functionality (as you've discovered), and the absence of firmware updates for upgrades that we all really want.

The removal of iPlayer from much of Sony's 2010/2011 Blu-ray player and home theatre lineup is mentioned on Sony's website's support pages. But it's the sort of thing you're only likely to find because you're trying to work out where iPlayer has gone. Sony says that a number of its devices were using the 'bigscreen' iPlayer version phased out by the BBC as it focuses resources on its newer version. 'This is now five years old and only 0.1% of users access the software through it,' points out Sony.

The Trades Description Act dates to 1968, so firmware updates probably weren't on the

agenda. And I'm pretty certain that the existence of BBC iPlayer on the BDP-S580 will have been listed somewhere as 'subject to availability.'

3D needs peripheral vision

Reader Ian Davies (HCC #242) is correct that spectacles for viewing 3D TV are a real pain. However, there is a major factor which works against it. Human vision works both on a stereoscopic and peripheral basis. In an IMAX cinema, the very large screen fills some of that peripheral vision. At home, even a large TV is still a framed picture, the frame selecting, as in a painting or photo, what is essential – the art of composition. In everyday vision, while our eyes select, we are always aware of the peripheral vision. A 3D image on a TV always has its edges cut off by the frame, as in close-ups, and this is disturbing and unrealistic. I would suggest that it is a sense of this which has made 3D fail.

Roger Payne, London

Win! Three great Blu-rays up for grabs

Just email your answer to Competitions@homecinemachoice.com to be in with a chance



The Babadook

Are you brave enough to let 2014's breakout horror hit through your door? Find out when *The Babadook* comes tap, tap, tapping on BD, DVD and digital platforms from February 16,

courtesy of Icon Home Entertainment. To celebrate the release, we've got five copies of the Blu-ray to give away.

Question:

Who wrote and directed *The Babadook*?

Answer:

A) Jennifer Kent B) Jennifer Lawrence C) Jennifer Lopez

Email your answer with '**Babadook**' as the subject heading – and include your postal address!



Game of Thrones: The Complete Fourth Season

The award-winning fantasy series *Game of Thrones* returns for its fourth season on Blu-ray and DVD from HBO

Home Entertainment on February 16. To be in with a chance of winning one of three Blu-ray copies, answer the following question...

Question:

Who plays Jon Snow in *Game of Thrones*?

Answer:

A) Peter Dinklage B) Kit Harington C) Lena Headey

Email your answer with '**Game of Thrones 4**' as the subject heading – and include your postal address!



Maps to the Stars

Director David Cronenberg brings together an all-star cast including Julianne Moore and Robert Pattinson in this scathing Hollywood satire. *Maps to the Stars* is available now on DVD and Blu-ray, and thanks to EntertainmentOne we've got five Blu-rays up for grabs.

Question:

Which of the following films was not directed by David Cronenberg?

Answer:

A) The Dead Zone B) A History of Violence C) The Shining

Email your answer with '**Maps to the Stars**' as the subject heading – and include your postal address!

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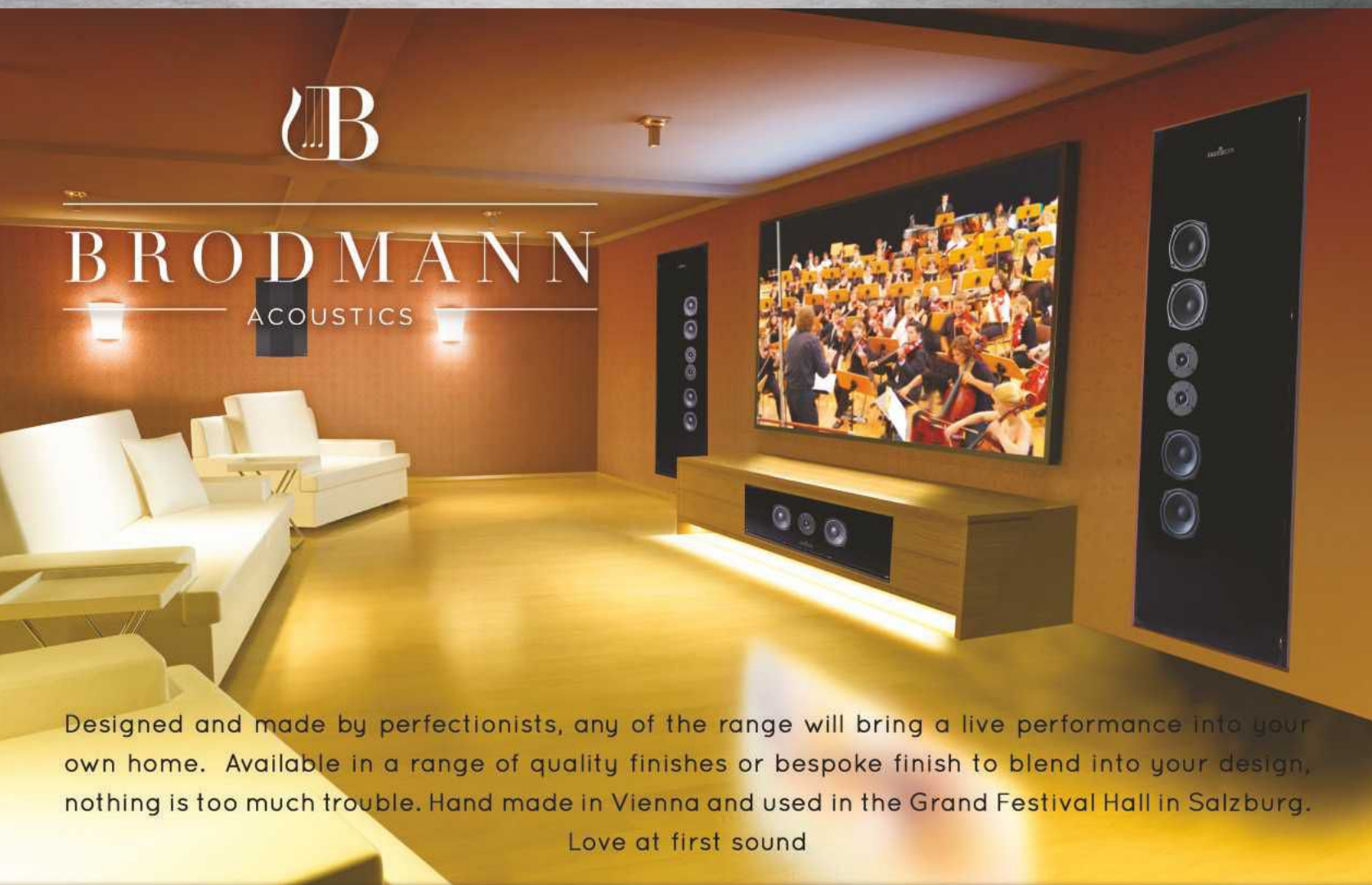
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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **FURY** Brad Pitt's WWII tank crew goes to war on Blu-ray
GONE GIRL David Fincher subverts the whodunnit in hi-def **GAME OF THRONES** The latest season of the fantasy series is a real game-changer **THE EQUALIZER** Denzel Washington uses his DIY skills to nail the bad guys **THIEF** Why Michael Mann's restored masterpiece is twice as nice in HD **AND MUCH MORE!**



Scarlett sensation

Lucy → Universal Pictures → All-region BD

Scarlett Johansson shows off her action cinema credentials in *Lucy*, the latest flick from French director Luc Besson. Turn the page to find out how we rate it on Blu-ray...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



'Lucy in the street with pedestrians' just doesn't have quite the same ring



Buying this BD is a no-brainer

Just pay no mind to the hokey science propping up French auteur Luc Besson's return to form



→ LUCY

Ever heard the old wife's tale about humans only using 10 per cent of their brain power? Well, that's the concept at the heart of filmmaker Luc Besson's new film, which finds Scarlett Johansson playing the titular drug mule infected by an experimental narcotic that boosts her brain to the point where she exhibits superhuman mental abilities.

Now, that sounds like the ideal setup for the kind of daft action films Besson has been content to simply produce for the past decade (such as *Taken* and *The Transporter*). However, here he has a much bigger goal, one signposted by a shot of an early hominid (yet another Lucy). You guessed it, this is Besson's very own *2001: A Space Odyssey*.

It's a ludicrous conceit, but one that results in a unusual and enjoyable piece of popcorn cinema that – thanks to its bizarre mix of action and philosophy – is either the dumbest smart film or smartest dumb film the world has ever seen. We're content to say it's the latter, and it definitely marks a return to (completely bonkers) form for Besson after the depressingly ordinary and uninteresting likes of *The Family* and *The Lady*.

Picture: Finding any flaws in *Lucy*'s AVC 2.40:1 Full HD encode proves a challenge. Originally filmed at 4K on Sony F65 camera (and with SFX provided by the likes of Industrial Light & Magic), the sci-fi

imagery is as sharp as Lucy's mind, with crisp edging and lush textures. Tonally, it bursts with vibrant primary and secondary colours from start to finish, while ringing, aliasing and noise aren't an issue.

In other words, *Lucy* serves up a reference-quality 1080p presentation.

Audio: Universal's disc arrives with a DTS-HD Master Audio track, and no sign of a home iteration of its theatrical Dolby Atmos mix. That's a shame, but this flat 5.1 affair is still a potent partner to the Full HD visuals. Perfectly balanced and active enough to satisfy the ears of the most picky audiophiles, it demonstrates generous range and depth, even if it isn't constantly working your speakers with explosions and gunfights. Although that certainly is the case during the obligatory shootout at the finale (Chapter 17).

Extras: *Lucy* may claim that we only use 10 per cent of our brain capacity, but that's still about six per cent more than Universal's disc devotes to bonus features.

The Evolution of Lucy (16 minutes) is a run-of-the-mill *Making of...* featurette that interviews Luc Besson and the principal cast about the filmmaking process and the concepts this sci-fi flick deals with. Elsewhere, *Cerebral Capacity: The True Science of Lucy* wastes 10 minutes of your life discussing the (totally bogus) science behind the film. And, sadly, that's your lot.

HCC VERDICT

Lucy

→ Universal Pictures

→ All-region BD → £25 Approx

WE SAY: Prepare to lose your mind over *Lucy*'s reference-quality visuals and superb lossless audio

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



Let's Be Cops

20th Century Fox → All-region BD
£25 Approx



There's the germ of a funny idea in this tale of two thirtysomething friends who start dressing like cops in

order to gain a little respect. Sadly, the makers of *Let's Be Cops* had no idea where to go next, letting the film's leads simply mug their way through a series of arbitrary sequences, before cooking up a criminal threat in order to give it a climax to work towards. Arresting comedy it is not. Still, for all of the film's blunders, the disc itself delivers a sleek and colourful AVC 1.85:1 Full HD transfer, plus plenty of extras, including two audio commentaries and 16 deleted/alternate scenes.



A Most Wanted Man

EntertainmentOne → Region B BD
£25 Approx



Based on a novel by John le Carré, this smart and subtle thriller stars the late Philip Seymour Hoffman as a German espionage agent whose interest is piqued by the arrival in Hamburg of a Chechen refugee with possible links to terrorist organisations. Tackling the 'War on Terror' and the idea of 'extraordinary rendition', it's a thoughtful, provocative and finds its thrills in procedures and detail, rather than action-packed espionage. It also looks superb in HD, with the crisp AVC encode serving up the stylish visuals. The BD also includes a fascinating *Making of...* and an interview with le Carré.



Maps to the Stars

EntertainmentOne → Region B BD
£25 Approx



Incest, murder and self-absorption are the order of the day as Canadian filmmaker David Cronenberg turns

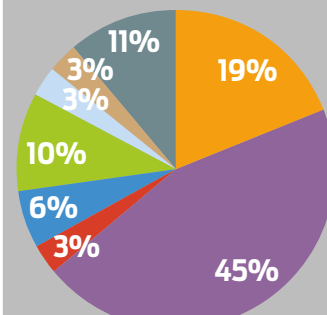
his gaze towards the grotesqueries of the film industry with this venomous Hollywood satire. While the director's typically detached approach to the material results in a deliberately flat DTS-HD MA 5.1 soundtrack, the Blu-ray still manages to bring an admirably sharp and detailed 1080p encode to the party. Any disappointment that Cronenberg only appears in a couple of short interviews is countered by a wonderfully revealing commentary by writer Bruce Wagner.



WE ASKED...

Which is director David Fincher's best film?

■ Alien³ ■ Se7en ■ The Game
■ Panic Room ■ Zodiac
■ ...Benjamin Button ■ Gone Girl
■ I don't like any of them



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David Fincher's latest is to die for

Expect suspense, satire, social commentary and surprises galore in this killer film

→ GONE GIRL

When his wife Amy (Rosamund Pike) goes missing on their fifth wedding anniversary, Nick Dunne (Ben Affleck) finds himself a prime suspect in the investigation. Under pressure from the police and an escalating media frenzy, the portrait Nick has painted of their perfect marriage begins to crumble away, revealing a web of lies and deceit. But does that really mean that he killed his wife?

Adapted from the best-selling novel by Gillian Flynn, David Fincher's latest looks like a standard whodunnit on first glance. But there's more to it than that – as the narrative twists and turns, getting nuttier and nuttier, it becomes clear that the film wants to scratch away at the idea of relationships, shining a light on the compromises and lies we tell while creating idealised version of ourselves.

Brilliantly acted, superbly photographed and razor-sharp in its no-holds-barred dissection of modern marriage, *Gone Girl* isn't quite the film the trailers promised. But in this case, that's no bad thing.

Picture: Shot digitally at 6K and mastered in 5K for its cinema release, *Gone Girl* arrives on Blu-ray with a barnstorming AVC 2.40:1 1080p transfer.

Even the most subtle nuances inherent in the original photography are delivered to your display. Textures retain a lifelike look at all times, thanks to the encode's combination of clarity and sharpness; colours are deliberately muted, but blended well; and graduated blacks lend a real sense of depth to the image. Like the Blu-rays for Fincher's previous *The Girl With the Dragon Tattoo* and *The Social Network*, it's another pristine digital transfer.



Audio: The highlight of the disc's capable DTS-HD MA 7.1 audio is its handling of Trent Reznor and Atticus Ross's score – the film itself is powered by dialogue (which is nicely prominent here) rather than action, so the ethereal music proves particularly invasive as it expertly fills the soundstage with its fuzzy licks and jittery electronics. In doing so, it provides an aural exploration of the characters' mindsets, and adds to the sense of duplicity that haunts each turn of the narrative. Clever.

Extras: The sole disc-based extra is a commentary by David Fincher. Thankfully, it's a corker, that finds the filmmaker in a light-hearted mood as he takes viewers through the making of the film, while still finding time to moan at the Regency Pictures logo, complain about wigs and poke fun at Ben Affleck.

The Blu-ray also comes with a replica *Amazing Amy* children's book – but you'll need to watch the film to understand why.



HCC VERDICT

Gone Girl

→ 20th Century Fox

→ All-region BD → £25 Approx

WE SAY: A flawless HD presentation of Fincher's box office hit – it's just a shame about the paucity of extras

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

'No, you idiot, I said aim the gun over there!'



Tanked up and ready for battle

Brad Pitt leads the charge in this bloody and beautiful World War II action drama



The rolling fields of Oxfordshire stand in for the German countryside

Brad Pitt and the rest of the tank crew cast underwent a Navy SEAL boot camp in preparation for the film

→ FURY

The popular trope 'war is hell' hangs heavily over *Fury*, a big-budget WWII movie starring Brad Pitt as a tank commander battling the last remnants of the German army during the Spring of 1945. For much of its running time this is a grim, uncomfortable watch, a brooding character study punctuated by shocking moments of violence. Indeed, when the final act arrives, with its more straightforward focus on a David vs Goliath-style siege, you may find yourself breathing a sigh of relief.

Pitt plays Don 'Wardaddy' Collier, a battle-worn, tactically astute sergeant faced with a new addition to the crew of his tank, *Fury*. The newbie is Norman (played by Logan Lerman), a young, idealistic pencil-pusher rushed to the front. Collier doesn't want Norman anywhere near his team, as he – not unreasonably – thinks he's likely to get them all killed. And Norman, tasked with cleaning up the blood-splattered seat left by his predecessor in the bowels of *Fury*, soon doesn't want to be there either. Over the course of a day, Collier and the rest of his crew take it upon themselves to toughen Norman up. How? By forcing him to face up to the reality that he's there to kill Nazis...

Writer/director David Ayer doesn't pull any punches. *Fury* is muddy and bloody, and surely pushes the boundaries of its '15' certificate as it sends limbs and heads flying in its pursuit of a realistic simulation of warfare. Yet Pitt and the rest of the cast clearly relish the difficult shooting conditions and harsh subject matter – there's not a performance here that's off-key – and the brilliantly-staged tank battles are thrilling enough to counter some of the uneven pacing. Recommended.

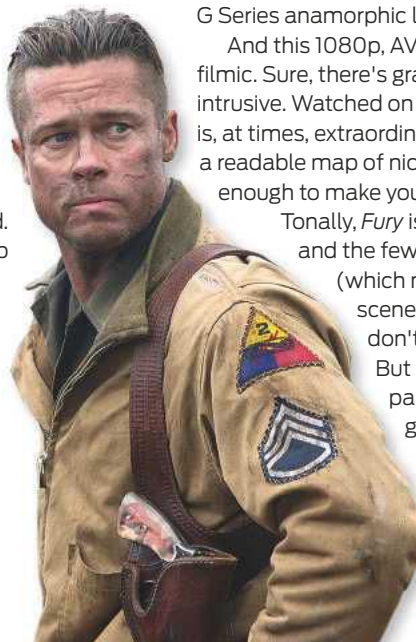
Picture: 'If you're shooting digital, you're making videos. Film is magic.' So says director David Ayer in one of this Blu-ray's special features, explaining the decision to shoot *Fury* on 35mm film, with G Series anamorphic lenses.

And this 1080p, AVC-encoded image is certainly filmic. Sure, there's grain, but it's even and in no way intrusive. Watched on a 4K display, the level of detail is, at times, extraordinary – Wardaddy's face is a readable map of nicks and scars, the tanks real enough to make you want to reach out and touch.

Tonally, *Fury* is all greens, browns and greys, and the few instances of primary colours (which mainly come during the scenes in a liberated German town) don't exactly pop off the screen.

But don't mistake this muted palette for dullness – it's a gorgeous-looking film.

Blacks are deep and solid. At times, particularly during the opening sequence and



DEMO SCREEN...

Fury

Time code: 078.29 – 084.31



Put a Tiger in your tank: What looked set to be a peaceful journey to their next mission is interrupted as they are ambushed by a German Tiger tank that destroys one of the US Shermans.



Three against one: The disc's DTS-HD Master Audio 5.1 mix makes its presence felt as the trio of surviving Sherman tanks go to engage the Tiger, with weighty booms accompanying each shot.



From bad to worse: As the Tiger takes out two of the three US tanks, your loudspeaker array should be ringing out with enough sonic firepower to make your neighbours think war has broken out.



Armour wars: The aural mayhem continues as the crew of Fury desperately try to get into place behind the Tiger in order to take advantage of the one weak spot in its armour...

the final night-time scenes, there are instances where dark areas of the picture become impenetrable, but it's a minor niggle. Equally, clarity is at its highest when daylight bathes the image. When the Fury crew are surrounded by billowing smoke and the orange glow of raging fires in darkness, details become harder to discern.

Audio: *Fury* rumbles onto Blu-ray with a DTS-HD Master Audio soundtrack that offers a perfect balance between brutal bombast and elegant refinement. Subtleties in the 5.1-channel sound design work brilliantly to flesh out the onscreen environments – the confines of the eponymous tank, for instance, are brought home by the metallic echo of the crew's angry bickering, while scenes at the battalion camp resonate with realistic, ambient noise.

Naturally, the surround mix is at its most impressive when the shells start flying – *Fury*'s 76mm gun disgorges its load with a ferocious weight. Audio placement is exemplary, with bullets cutting a path through your viewing room and hitting their mark with percussive panache. The film's climactic

firefight is wonderfully staged, with audio cues helping you keep abreast of the action.

Also worthy of note is the original score by *Gravity* alumni Steven Price. A surprisingly modern effort for a period piece, it mixes traditional orchestral instrumentation with some deep synthetic bass notes and floaty choral work. And it pours out of the speaker array with utmost fidelity.

Extras: There's a quartet of featurettes in the Special Features menu, although the focus is quite narrow. Pick of the bunch is *Taming The Beasts...*, a 12-minute look at the tanks used for the shoot, including the world's only working Tiger. Also worth a watch is *Director's Combat Journal*, a 17-minute featurette focusing on the filming challenges faced by David Ayer. He proves very informative, so it's a shame there's no chat-track.

The other two features are an 11-minute look at the main cast and a 12-minute piece about the surviving WWII tank veterans who liaised with the cast and production team. There are also 16 deleted/extended scenes and a photo gallery.



HCC VERDICT

Fury

→ Sony Pictures

→ All-region BD → £25 Approx

WE SAY: Grim and gung-ho in equal measure, this tank warfare flick is a thrilling AV experience

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



The UK's Bovington Tank Museum provided Tiger and Sherman tanks

ARCADE ACTION

Bigscreen home entertainment isn't just about movies anymore. Check out these two videogames vying for time on your home cinema system...

Assassin's Creed: Rogue

Ubisoft → Xbox 360/PS3/PC → £40 Approx



With Ubisoft focusing the bulk of its attention on the next-gen *Assassin's Creed: Unity* in the run-up to Christmas, this PS3/Xbox 360 instalment in the best-selling franchise feels like something of an afterthought by comparison.

Highly reminiscent of 2013's brilliant *Assassin's Creed IV: Black Flag* in its mix of stealth, murder and naval exploration, this latest game still adds a few twists of its own to the template. These include the ability for your ship to be boarded by enemies and – most pivotally – a character who sides with the Templars over the Assassins (hence the title). As radical as this notion may seem to fans, in truth it doesn't really change the game experience. The only difference of note is the addition of missions that tasks you with protecting NPCs from Assassins, which requires extra guile from players as they track down their enemies' hiding places with the help of whispered audio cues.

While the game's scenery remains as vast and visually stunning as that of its predecessor, the world itself feels less involving and the main campaign is the shortest the series has seen to date. And, while not as bug-ridden as its next-gen counterpart, *...Rogue* is also prone to some game-crippling glitches that really should have been ironed out during playtesting.



Dragon Age: Inquisition

Electronic Arts → Xbox One/Xbox 360/PS4/PS3/PC → £50 Approx



With franchises like *Star Wars: Knights of the Old Republic* and *Mass Effect* under its belt, role-playing game specialist Bioware has long been a favourite with fans of the genre. This third instalment in the *Dragon Age* series will do nothing to tarnish that reputation, delivering the most expansive and enjoyable fantasy RPG experience this side of *The Elder Scrolls V: Skyrim*.



When a mysterious explosion creates a series of rifts in space, it opens the door to an invasion by inter-dimensional demons. It falls to you as the sole survivor of the blast to uncover

the truth about what happened and traverse the land closing the rifts. Okay, so the plot is a bit hokey – but like all of the best role-playing games, the main narrative is only the backbone onto which players will carve out their own stories, through the characters they meet, the quests they undertake and the way in which they choose to manage the game's political manoeuvring.

For such a vast open-world RPG, *Dragon Age: Inquisition* is a surprisingly good-looking game when it comes to both the landscapes and the myriad creatures roaming around. And with every map packed full of side-quests and other points of interest, this third *Dragon Age* title will devour huge chunks of your life before you get close to the end credits.



The Strain: The Complete First Season

20th Century Fox → All-region BD
£40 Approx



Based on a trilogy of books by Guillermo del Toro and Chuck Hogan, *The Strain* is a deft piece of TV horror dealing with a vampire outbreak in New York. Due to its surfeit of supporting

characters, the show initially gets bogged down with dull family drama, but once over this hurdle it picks up steam. Stick with it. The distinctive looking series (awash with bold primary colours) makes a strong impression in Full HD and comes accompanied by a full-blooded DTS-HD MA 5.1 mix and three featurettes.



Boardwalk Empire: The Complete Fifth Season

HBO Home Entertainment
Region B BD → £40 Approx



It's difficult to escape the air of finality that hangs over this truncated season of HBO's period crime drama. Jumping forward five years, these eight episodes give fans a chance to

say farewell to their favourite characters (some of whom even make it out alive) as the show wraps up its storylines. The three-disc BD boxset is on a par with its predecessors when it comes to the excellent AV quality. However, the same cannot be said for extras, which have been stripped back to three episode commentaries and eight brief location featurettes.



The Fall: Series Two

Acorn Media → Region B BD
£25 Approx



Met Police superintendent Stella Gibson (Gillian Anderson) and serial killer Paul Spector (Jamie Dornan) continue their game of cat and mouse in this latest series of Allan Cubitt's

mesmerising crime drama. Given the show's focus on psychology over action, the decision to limit the audio to LPCM 2.0 never becomes an issue, while the 1080i50 imagery appears true to the source. A revealing 12 minute *Making of...*, 11 deleted scenes and a photo gallery make up the bonus goodies.



Who wants to be the Girl with the Dragon Tattoo when you can have the real thing?



DISC
OF THE
MONTH

Prepare for a real Game-changer

Nothing will be the same again after this latest series of HBO's sensational fantasy show...

→ GAME OF THRONES: THE COMPLETE FOURTH SEASON

HBO's blockbuster adaptation of George R.R. Martin's series of fantasy novels continues to go from strength-to-strength. Following the shocking events of last season's 'Red Wedding', the political landscape has shifted, with new players entering the arena and old ones facing a multitude of new threats.

Of course, discussing anything that happens risks spoiling the shocks these ten episodes have in store for those not already watching on Sky Atlantic. So all we'll say is that *Game of Thrones* remains one of the best dramas being made today. Watch it!

Picture: HBO has reduced the number of Blu-ray discs from five to four with this latest boxset, but this hasn't had a noticeable impact on the quality of its ten AVC 1.78:1 1080p encodes.

In fact, with every passing season the visual style of *Game of Thrones* has become more cinematic and more spectacular. Every locale, from the sun-soaked slaver city of Meereen to the bleak icy wastes north of The Wall, boasts distinctive looks that these Blu-rays have no difficulty in recreating.

Once again there's a filmic appearance bolstered by perfectly saturated colours, meticulous detailing, cleanly defined edges and sinister blacks. Magnificent.



Audio: The DTS-HD MA 5.1 tracks continue to deliver a more robust audio experience than the vast majority of TV fare. Action scenes such as the attack on The Wall that makes up the entirety of the ninth episode (*The Watchers on the Wall*) envelop you in the onscreen mayhem with a dynamic use of your entire speaker array, while dialogue remains prioritised.

Extras: All but one of the episodes (*Breaker of Chains*) is accompanied by an audio commentary (two in the case of *The Watchers on the Wall* and *The Children*) from various members of the cast and crew. As with previous seasons, all ten also boast an optional in-episode interactive guide to the show's characters, locations and history.

Also included are four featurettes – *The Politics of Power: A Look Back at Season Three* (25 minutes), *Bastards of Westeros* (seven minutes), *New Characters & Locations* (eight minutes) and *Behind the Battle for the Wall* (37 minutes). Then there are 16 *Histories & Lore* vignettes, two deleted scenes, a blooper reel and *The Fallen: A Roundtable* (30 minutes), which is a chat with the six cast members whose characters were killed off this year.



The Iron Throne is the type of chair that reminds you why cushions were invented



HCC VERDICT

Game of Thrones: The Complete Fourth Season

→ HBO Home Entertainment
→ All-region BD → £50 Approx

WE SAY: Another fantastic Blu-ray outing for this magnificent TV show

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

Denzel uses any surface that comes to hand to steady his aim...



More than equal to the task

An impressive Blu-ray platter proves that revenge is a dish best served in hi-def



Watch *The Equalizer* with its leading man and director in 'Vengeance Mode'



HCC VERDICT

The Equalizer

→ Sony Pictures

→ All-region BD → £25 Approx

WE SAY: An impressive looking hi-def outing for this entertaining '80s-style vigilante thriller. More please...

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

→ THE EQUALIZER

This bigscreen update of the 1980s TV show features Denzel Washington as Robert McCall, a former black-ops guy who has left that part of his life behind and now works at a home supplies store in Boston. Yet when a young prostitute (Chloë Grace Moretz) he befriended is hospitalised by her Russian mobster pimp, McCall slips back into old ways and sets out on a bloody trail of revenge.

Reunited with *Training Day* director Antoine Fuqua, Washington is on fine form here, his effortless cool and charisma ensuring that you constantly root for the morally righteous McCall as he dispenses justice to criminal scum with any tool he can lay his hands on (corkscrews, electric drills – you name it). Meanwhile, Marton Csokas is the very essence of unflappable evil as psychopathic Russian fixer 'Teddy'; and in lieu of much in the way of actual story, the film thrives on the anticipation of these two unstoppable forces eventually colliding. And when they do, it really doesn't disappoint.

Clearly pitched as the opening salvo in an ongoing franchise, *The Equalizer* is a surprisingly brutal and stylish entry in the 'revenge-thriller' genre that feels similar to the films Washington made with the late director Tony Scott. We hope that the bigscreen exploits of Robert McCall don't end here.

Picture: Taking place mainly at night, *The Equalizer* doesn't seem like a particularly showy movie, but it soon becomes apparent that director Antoine Fuqua and cinematographer Mauro Fiore have created a

distinctive look for the film that lends itself to an absolutely spectacular 1080p image.

Framed at 2.40:1, the AVC encode delivers inky blacks that contrast brilliantly with the neon signing and ochre streetlights that reflect on the damp streets. Moments when the camera becomes more intimate with the film's characters (particularly the close-ups of McCall's eyes as he surveys his targets) also reveal plenty of reference-quality detailing. Add to that a lack of banding or artefacts and you have a Full HD encode that will delight home cinema aficionados.

Audio: While *The Equalizer* doesn't really crank up the action stakes until its final third, it would be remiss to think the DTS-HD MA 7.1 mix has little to offer until then. The precise placement of audio effects does a fine job of giving every location its own ambience, while dialogue feels totally natural.

Of course, when things do go up to 11 with an exploding ship (Chapter 13) and the store showdown (Chapters 13-15) the 7.1 track keeps pace with the frantic onscreen action, noticeably with a potent low-end and superb dynamics.

Extras: *Vengeance Mode* is a *Maximum Movie Mode*-style method of watching *The Equalizer* that punctuates the film during eight scenes to show behind-the-scenes footage and to talk to its director and star about the characters and shooting the film's major set-piece scenes.

Sony's Blu-ray platter also houses five informative *Making of...* featurettes, a funny spoof store promo for Home Mart and a gallery of 52 photographs.

Nurse 3D

Lionsgate → Region B BD
£25 Approx



If there's one thing an exploitation film about a clothing-averse nurse with a penchant for murder shouldn't be, it's boring. But that's ultimately what brings down this deliberate attempt at crafting a cult horror flick... well, that and the casting of the mesmerisingly awful Paz de la Huerta in the lead role. The one thing the film gets right, however, is its use of 3D, constantly poking things out of the screen in time-honoured exploitation fashion. The Blu-ray's DTS-HD MA 5.1 mix also sounds pretty bombastic when necessary. A fun chat-track and short *Making of...* are also included.



Nekromantik

Arrow Video → Region B BD & R2 DVD
£35 Approx



Those who simply have to own Jörg Buttgerit's notorious 1988 flick in hi-def should definitely pick up this version. Limited to just 3,000 copies, this release includes Blu-ray and DVD platters for the uncut film, plus the CD soundtrack and a 100-page book of essays about Buttgerit's films. The Blu-ray restoration of the film does the best it can given the limitations of the ultra-low budget 8mm source material (as shown by the image quality of the unrestored 'Grindhouse Version' also included on the disc) and is backed up by a comprehensive array of extra features.



As Above, So Below

Universal Pictures → All-region BD
£25 Approx



Tomb Raider and *The Blair Witch Project* clash uncomfortably in this race around the Paris catacombs. Wasting both its spooky setting and a surprisingly likeable cast, this dreary found-footage chiller fails to generate any real scares to accompany the ever-present shaky-cam visuals. Although the AVC 1.85:1 1080p picture demonstrates better clarity than expected, the real star of this Blu-ray release is the wonderfully immersive DTS-HD Master Audio 7.1 soundtrack, with its creaks and rumbles keeping the full soundstage engaged at all times. The sole extra is a four-minute featurette.



The Other

Eureka! Classics → Region B BD
& R2 DVD → £23 Approx



Odd things are afoot on a Connecticut farm as people keep dying under mysterious circumstances. It couldn't possibly have anything to do with young twins Niles and Perry... Could it? Not even the fact that its big twist has become so well-worn over the decades can diminish the eerie charms of this unsettling psychological horror. While this Blu-ray outing is rather thin on extras (just the trailer and a booklet), the 1.85:1 Full HD transfer replicates the film's intentionally hazy and dreamlike visuals. Meanwhile, the LPCM dual-mono soundtrack adds plenty of ambience.



It really should have stayed untold

Legendary vampire is rendered toothless by a big-budget, teen-friendly makeover

→ DRACULA UNTOLD

Universal's ongoing struggle to reinvent its 'Classic Monsters' franchises for modern cinema audiences hits another snag with this curiously anaemic origin story for the king of the vampires.

No doubt informed by the lacklustre box office that greeted 2010's blood-strewn *The Wolfman*, this latest re-imagining is presumably designed to appeal to a much wider audience. As such, it misses the entire point of the character's deathless appeal and presents Vlad/Dracula (Luke Evans) as a tragic, romantic figure, forced into a deal with the devil in order to save his kingdom from an invading army.

To make matters worse, the decision to recast the character as a good guy and take bloodsucking off the table in favour of super strength and the ability to transform into a cloud of bats renders *Dracula Untold* little more than a medieval superhero film. And it's not even an original one – as it hits every predictable character and story beat you could guess at.

So, just like *Van Helsing* and *The Wolfman* before it, *Dracula Untold* is unlikely to reignite audience interest in Universal's enviable roster of legendary beasts. It's a good job that those of us who do still care about them can revisit the brilliant originals on Blu-ray and DVD...

Picture: *Dracula Untold* rises from the grave on Blu-ray with a stylish AVC 2.40:1 Full HD encode. Rich, vibrant primaries combine with impenetrable blacks (that are occasionally prone to crush) to give the film a particularly eye-catching aesthetic. Detailing is generally very good in well-lit scenes, but the surfeit of grain that raises its head in darker



sequences – when added to the amount of post-production colour grading – has a tendency to rob the image of finer textures and details.

Audio: The DTS-HD MA 5.1 mix is par for the course considering the film's modern, action-packed bent. Epic battle scenes, found in Chapters 8 and 14, bewitch with their power and dynamic range, while Dracula's final showdown with Dominic Cooper's Turkish Sultan features silver coins raining down from above them, highlighting an assured and effective use of the soundstage.

Extras: Director Gary Shore and production designer François Audouy are on hand with an interesting commentary that isn't afraid to point out studio-mandated changes to the film. The duo also provide optional commentaries for the alternate opening and six deleted scenes included on the disc.

Also included are four *Making of...* featurettes and 16 *The Land of Dracula* behind-the-scenes vignettes.



HCC VERDICT

Dracula Untold

→ Universal Pictures

→ All-region BD → £25 Approx

WE SAY: More 'Bat-Man' than Dracula, this bigscreen take on the legendary vampire lacks bite

Movie ★★☆☆☆

Picture ★★☆☆☆

Audio ★★☆☆☆

Extras ★★☆☆☆

Overall ★★☆☆☆



The best just got better on BD

Feature-packed release steals the crown as Michael Mann's finest hi-def outing



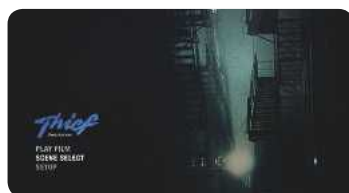
→ THIEF: LIMITED EDITION

Director Michael Mann's feature film debut stars James Caan as Frank, a career thief whose plan to retire and make a fresh start hits a serious hurdle when he gets mixed up with the Chicago Mafia. Smart, stylish and intense, *Thief* remains one of Mann's finest films, not to mention one of the greatest American crime movies ever made.

Picture: Like George Lucas, Michael Mann just can't stop tinkering with his older material. *Manhunter*, *The Last of the Mohicans* and *Heat* have all been subject to tweaks over the years – and *Thief* is no exception.

Having added a scene and made some other minor changes when the film hit LaserDisc in 1995, Mann used the new 4K restoration that served as the basis for last year's Criterion Blu-ray as an excuse for further tweaks – most notably a heavy blue tint that gives this Director's Cut more of a neo-noir aesthetic (above left) that has divided opinion among fans.

Whatever your thoughts on the new colour grading, the 4K restoration itself (which is also the basis for this Arrow release) is a thing of beauty,



HCC VERDICT

Thief: Limited Edition
→ Arrow Video → Region B BD
→ £28 Approx

WE SAY: Don't miss out on this definitive Blu-ray edition of Michael Mann's superb feature film debut

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

offering excellent clarity and an authentically film-like appearance.

For those who aren't so keen, Arrow has included a second BD platter in this Limited Edition release housing a 1080p presentation of the original theatrical cut (above right). While the transfer doesn't hold a candle to the 4K restoration, it makes for a fascinating comparison and will prove perfectly acceptable to those who prefer Mann's original version.

Audio: This set provides DTS-HD MA 5.1 and LPCM stereo options for the Director's Cut, and an LPCM stereo mix for the Theatrical Cut. All three tracks are exceptionally clear, but the 5.1 remix does a particularly effective job of opening up the soundstage and bringing greater range to the fabulous Tangerine Dream score.

Extras: Not content with offering two versions of the film, Arrow has packed this BD release with extras. There's a chat-track featuring the director and star, a 14-minute interview with Caan, a 2001 US TV documentary about Mann's career and much more.

Metropolis: Ultimate Collector's Edition

Eureka! Masters of Cinema
Region B BD → £30 Approx



Masters of Cinema gives Fritz Lang's 1927 sci-fi masterpiece a second Blu-ray outing with this two-disc steelbook (limited to just 4,000 copies). While the set's first platter is a repeat

of the label's magnificent 2010 'reconstructed and restored' BD release, the second houses a 1080p presentation of Giorgio Moroder's controversial 1984 re-imagining with its pop-tastic soundtrack (presented here in both DTS-HD MA 2.0 and 5.1 incarnations). The disc also includes an archival 18-minute featurette about Moroder's edit and a superb 49-minute doc about the 2008 rediscovery of missing footage from the film.



The Man Who Knew Too Much

Network → Region B BD
£15 Approx



Kidnap, blackmail and murder. Business as usual for Hitchcock, in other words. However, this particular tale must have been one that the filmmaker was particularly fond of, as he made it twice – once in 1934 and again in 1956. With the latter already available on Blu-ray from Universal, this hi-def platter concentrates on the original and serves up a strong AVC 1.37:1 Full HD restoration. The LPCM mono audio is a touch quiet, but is otherwise as clear as you could hope for. Extras include an archival 1972 LWT interview with Hitch, an image gallery and a video intro.



The Lady Vanishes

Network → Region B BD
£15 Approx



One of Hitchcock's best films, this charming thriller stars Margaret Lockwood as an English tourist travelling through Europe by train, who discovers that an elderly travelling companion has apparently disappeared – only for the other passengers to deny ever having seen the woman in question. As with *The Man Who Knew Too Much*, Network's Blu-ray presentation of *The Lady Vanishes* is first-rate, with a beautifully restored black-and-white transfer and clean LPCM mono soundtrack. Sadly, it doesn't do very well with extras, only mustering a trailer, video intro and picture gallery.



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Reviewed

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YAMAHA

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DOLBY ATMOS

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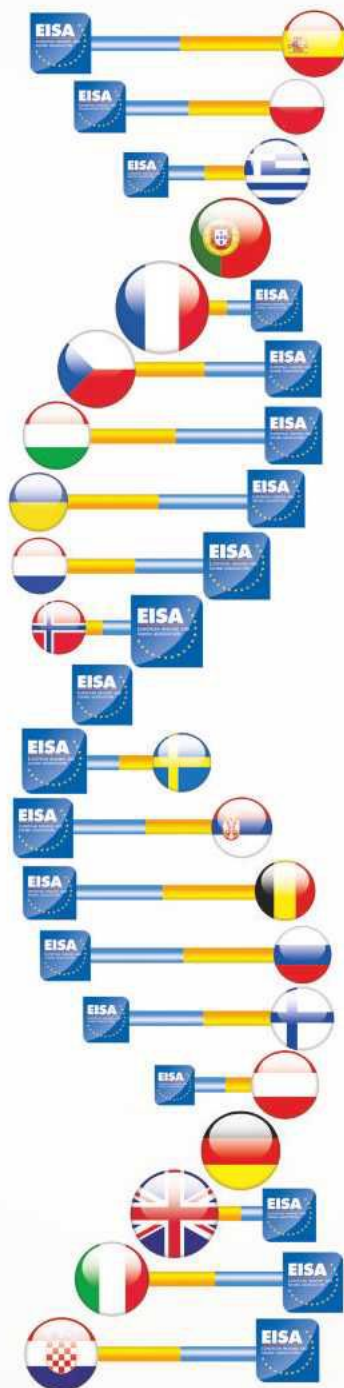
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Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

TOP 10 TELEVISIONS

All prices are approx and may have changed

**Sony KD-65X9005B** → £3,600

★★★★★

A groundbreaking set from Sony. The 'Wedge' cabinet design affords room for a best-in-class audio performance from the side-mounted speakers, while imagery is hard to fault, with crisp 4K visuals and impressive motion. *HCC #236*

**Samsung UE65HU8500** → £4,000 ★★★★★

This second-gen 4K flagship is a first-rate (curved) flatscreen with colour-rich, lethally-sharp images. The external connections box provides welcome futureproofing. *HCC #234*

**Samsung UE55HU7500** → £2,300 ★★★★★

Don't want the curved form or higher price of the HU8500 range? Then step down to this flat model. No One Connect box, but otherwise it's equally impressive in PQ terms. *HCC #239*

**Sony KDL-50W829** → £900 ★★★★★

Impressively affordable, Sony's 50in LED stands out courtesy of brilliant motion handling and sharp Full HD imagery. The new 2014 user interface offers a few Smart tricks, too. *HCC #233*

**Panasonic TX-42AS600** → £430 ★★★★★

An example of the value that can be found in modern-day Full HD sets. This 42-incher offers the best elements of Panasonic's Smart system, dynamic images and a great price. *HCC #240*

**LG 65UB980V** → £3,000 ★★★★★

LG's 65in 4K flagship hides its size well courtesy of a super-cool bezel/stand design. Performance is generally excellent, barring a few backlight niggles, and the onboard speakers are fab. *HCC #241*

**LG 55EC930V** → £2,000 ★★★★★

OLED at an attainable price (well, almost), this 55-incher employs LG's WebOS platform and curved design. Full HD resolution, but the picture quality is stunning at times. *HCC #243*

**Samsung UE40H6400** → £650 ★★★★★

This mid-market TV will probably sell like hotcakes. It ignores 4K in favour of Full HD, and combines a pleasing AV performance with plenty of useful Smart features. *HCC #236*

**Finlux 50F8075-T** → £600 ★★★★★

The best screen we've seen yet from the direct-retail corp, this 50-incher matches its affordability with a great user interface and solid, but not awe-inspiring, HD visuals. *HCC #234*

**Panasonic TX-50AX802** → £1,600 ★★★★★

This second-gen 4K TV again offers HDMI 2.0 and DisplayPort connectivity, joined by a well-contrasted colour-rich image and elegant design. Netflix 4K support added by firmware. *HCC #237*

TECH INFO: TELEVISIONS



What? No plasma?: The TV market is now dominated by LED-lit LCD screens. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has ceased, although you may still find some end-of-line stock. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models are also a consideration if you want to really impress the neighbours. OLED technology is championed by LG.



Active or Passive: At the beginning of the 3D era, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. Some brands offer both Passive and Active models, depending on the panel used. Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on, but still may make headway.

TOP 5 BLU-RAY MOVIES

**The LEGO Movie 3D**

A fantastic family blockbuster (complete with LEGO versions of Batman and Superman), this gorgeous-looking 'toon packs a 5.1 punch and enough smart gags to keep you laughing all the way to the toy shop.

★★★★★

**Dawn of the Planet of the Apes 3D**

Not only does this simian sequel impress with its smarts, it also delivers an admirable 3D encode, sensational 7.1-channel soundtrack and more extras than you can shake a banana at.

★★★★★

**Guardians of the Galaxy**

The Blu-ray for Marvel's blockbuster laughter-packed space adventure sports an impeccable 2.40:1 AVC encode, some worthwhile bonus bits and a stonking DTS-HD Master Audio 7.1 soundtrack.

★★★★★

**Edge of Tomorrow 3D**

Tom Cruise's oh-so-enjoyable sci-fi caper didn't light up the box office, but it should be given a warm welcome on BD. Image quality here is sublime, and the 7.1 soundmix marries brutal bass with whizzy effects.

★★★★★

**Withnail and I: Limited Edition Boxset**

The revered '80s comedy gets the red carpet treatment, with a new 2K restoration improving vastly on previous releases. Extras on this limited edition set include a 200-page book!

★★★★★

Top 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103D → £600 ★★★★★**
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU featured a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance was faultless, and the onscreen menus superb. This newer model, the BDP-103D, adds Darbee Visual Presence processing for you to play with. *HCC #228*
- 2**  **Oppo BDP-105D → £1,100 ★★★★★**
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #234*
- 3**  **Sony BDP-S7200 → £220 ★★★★★**
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. *HCC #239*
- 4**  **Panasonic DMP-BDT700 → £500 ★★★★★**
 Claiming THX-certified 4K upscaling and HDMI 2.0 60p passthrough, this mid-range deck from Panasonic is a good partner for a modern display. Great audio option, too. *HCC #237*
- 5**  **Samsung BD-H6500 → £130 ★★★★★**
 Our current fave bargain BD deck – actually Samsung's 'flagship' model – is packed with Smart features, including support for the brand's multiroom system, and super-quick operation. *HCC #236*
- 6**  **Denon DBT-3313UD → £900 ★★★★★**
 As a 'transport', this universal deck lacks built-in decoders and analogue outs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded. *HCC #217*
- 7**  **LG BP645 → £100 ★★★★★**
 An affordable, likeable offering from LG. The BP645 claims Spotify compatibility and Wi-Fi-enabled headphone listening among its bonus features. Slim but lightweight design. *HCC #236*
- 8**  **Sony BDP-S5200 → £100 ★★★★★**
 Using a compact bedroom-friendly build, Sony's quirky-looking deck is a good budget option, but not as Smart or as smooth to use as some of its price-point rivals. *HCC #236*
- 9**  **Pioneer BDP-160 → £130 ★★★★★**
 The successor to the BDP-150 adds integrated Wi-Fi, making media file playback simpler. The Smart cupboard is still practically empty, but SACD support softens the blow. *HCC #227*
- 10**  **Toshiba BDX5500 → £120 ★★★★★**
 The key attraction of Toshiba's £120 player (aside from its 3D, Miracast, 4K scaling and DLNA features) is its small form factor and vertical alignment. Good for space-tight setups. *HCC #238*

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about the PlayStation?: Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joypad is a pain, though, and the console runs more noisily than most BD spinners. The newer, more expensive PS4 is a much better gaming machine, but won't play CDs!



DEMO DELIGHT

Edge of Tomorrow: This enjoyable, FX-packed Tom Cruise sci-fi scooped the Best Picture Quality gong in our Movie Awards. Shot on film for a realistic aesthetic, it transfers over to Blu-ray with a pristine 1080p image. The detailing is simply astonishing!

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TOP 10 PROJECTORS

All prices are approx
and may have changed**Sony VPL-VW300ES** → £5,800

★★★★★

Auditioning the newest, most affordable member of Sony's 4K range is a no-brainer. It loses a shade of brightness and the lens memory feature of its VPL-VW500ES stablemate, but retains the cinematic verve. Top of the class. *HCC #243*

**JVC DLA-X500R** → £5,000 ★★★★★

Armed with a more adept third generation of the brand's proprietary e-shift technology, the X500R continues JVC's winning ways – contrast rich, sharp and full of tweaks. *HCC #232*

**Epson EH-TW7200** → £1,900 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**JVC DLA-X700R** → £7,300 ★★★★★

A hefty chunk more expensive than the X500R, but with an improved contrast performance (and more flexible installation options) that will reward those who splash the cash. *HCC #238*

**Optoma HD50** → £1,000 ★★★★★

With a retweaked user interface that improves upon previous Optoma light-cannons, the 12V-trigger-toting HD50 is a brilliant budget buy. *HCC #239*

**Epson EH-TW6600W** → £1,700 ★★★★★

This offers plenty of bang for your bigscreen buck, including wireless HD (with switching skills), flexible setup, useful processing features and a punchy, vivid image quality. *HCC #241*

**BenQ W1070+** → £650 ★★★★★

An accomplished low-budget DLP model, the W1070+ offers ISF-certified calibration and a 12V trigger in conjunction with a sharp, bright, detailed performance. Bit of a bargain! *HCC #240*

**Philips Screeneo HDPI590** → £1,500 ★★★★★

Neatly designed, the Screeneo offers ultra-short throw projection thrills, albeit at 720p (and the DVB tuner is SD). Good speakers and networking skills complete a nice package. *HCC #233*

**Sony VPL-HW55ES** → £2,800 ★★★★★

Not one of Sony's 4K models, but this keenly priced Full HD projector delivers where it counts, with solid calibration options, simple setup and brilliant 2D visuals. No 12V trigger. *HCC #230*

**Epson EH-TW9200W** → £3,000 ★★★★★

A brilliant mid-range projector with wireless HD transmission and ISF certification, yet the noise generated when running in 'Normal' lamp mode could be a concern for some. *HCC #231*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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Top 10 SPEAKERS

All prices are approx and may have changed



B&W 683 Theatre 5.1 → £2,750



The first step on the floorstanding ladder in B&W's speaker stable, the revamped 600 Series incorporates new tweeter and bass driver designs and offers absurd value for money. Not the prettiest cabinets, but you really won't care. HCC #234



KEF R Series 7.1 → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. HCC #217



DALI Rubicon LCR 5.1 → £6,275 ★★★★★

Trickle-down tech from DALI's high-end Epicon speakers (including ribbon/dome hybrid tweeters) squeezed into on-wall cabinets – supremely adept with music and movies. HCC #238



Wharfedale Diamond 100 HCP → £950 ★★★★★

Yet another excellent affordable package from Wharfedale, the Diamond 100 HCP offers a sound quality beyond what you might expect from its sub-£1,000 ticket. Maturely styled. HCC #224



Kreisel Sound Quattro 7.2 → £8,500 ★★★★★

Mixing two mammoth woofers with some surprisingly manageable multi-tweeter speakers (including TriFX surrounds) this US package is supremely assured. HCC #232



Artcoustic Spitfire SL 7.2 → £17,000 ★★★★★

Slimmed-down cabinets now even easier to install on-wall or behind a screen, with a multi-driver design ensuring they're easy to drive to high SPLs. Ideal for dedicated rooms. HCC #233



Tannoy Precision Series 5.1 → £4,450 ★★★★★

These speakers' classic look belies the brand's hi-fi heritage, but this multichannel setup works wonders with movies, too – a rich, large and dynamic sound is on offer. HCC #226



Monitor Audio Radius R90HT1 → £1,500 ★★★★★

The Radius speakers have been revamped with new drivers and rear ports, and this 5.1 set provides a clear, detailed sound with plenty of heft. Floorstanders are an option, too. HCC #230



Polk Audio TL1600 → £330 ★★★★★

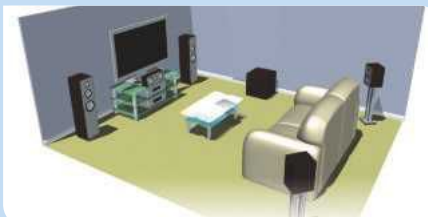
A great-priced 5.1 sub/sat package with some neat design flourishes and two-way driver arrays. Performance is good for the money – grab a budget AVR and get going! HCC #243



Roth Oli RA 5.1 → £850 ★★★★★

A floorstanding array with neat design and reassuring build, this value-for-money pack delivers an impressive slice of scale to go with its full-range prowess. HCC #233

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Godzilla: Hollywood tackles the iconic aquatic beastie once again, and the Blu-ray comes armed with a DTS-HD MA 7.1 mix that's dynamic, powerful, aggressive, detailed and expansive from start to finish. Check out Chapter 8's M.U.T.O. circling sequence for a masterclass in precision and control.

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TOP 10 AV RECEIVERS/AV PROCESSORS

All prices are approx
and may have changed**Denon AVR-X5200W** → £1,700

★★★★★

Offering Atmos compatibility – and Auro-3D via a paid upgrade – the X5200W builds upon the good work of the X4100W, adding greater system flexibility courtesy of 11.2 processing and nine amp channels. Energetic sound. *HCC #243*

**Onkyo TX-NR838** → £1,000 ★★★★★

A nicely-specced mid-range AVR, offering 5.1.2 Atmos playback (as well as regular 7.1) in addition to HDCP 2.2 support, which will please future-gazers. Crisp-sounding sonics. *HCC #240*

**Arcam AVR750** → £4,000 ★★★★★

If all you want from an AV receiver is vast power and effortless performance, this high-end 7.1-channel beast is tailored to you. Little bonus features beyond audio networking. *HCC #225*

**Marantz NR-1605** → £600 ★★★★★

A brilliant option for those cowed by full-form AVRs, the NR-1605 sees Marantz retool its slender line to include integrated Wi-Fi and Bluetooth. Agile, sprightly and easy to use. *HCC #239*

**Yamaha RX-A3040** → £2,000 ★★★★★

This superb Atmos-ready flagship AVR features a fluid, dynamic sonic signature, slick operation and reassuringly robust design and build. Good in stereo mode, too. *HCC #239*

**Anthem MRX-510** → £1,700 ★★★★★

The Canadian brand returns in style with an AVR that ignores streaming/networking features but boasts supreme room EQ and eats movie soundtracks for breakfast. *HCC #232*

**Denon AVR-X4100W** → £1,300 ★★★★★

Denon's entry-point for Atmos offers 7 x 125W of amplification and built-in Wi-Fi/Bluetooth. An improved UI and Audyssey MultEQ XT32 aids installation. Fast, exciting sound *HCC #241*

**Primare SPA23** → £3,500 ★★★★★

A stripped-down five-channel amp that majors on sublime, and power-packed, multichannel delivery. Limited functionality, but that's not what this luxury slab is all about. *HCC #237*

**Pioneer VSX-924** → £500 ★★★★★

Pioneer's newest £500 model brings Bluetooth and Wi-Fi, an even better control app, HDMI 2.0 specification and under-the-hood tweaks. A great-value, good performer. *HCC #236*

**Yamaha RX-V577** → £500 ★★★★★

Loaded with DSP modes (some fun, some not) and Wi-Fi-enabled for audio streaming, this clean-sounding Yamaha is a great low-budget option. Bluetooth via optional dongle. *HCC #237*

TECH INFO: AV RECEIVERS



Tackling new heights: A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and the forthcoming DTS:X. Most AVR brands have already pledged support for the latter.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

TOP 5 BONUS FEATURES

**Scream Queens: Horror Heroines Exposed**

Found on 88 Films' recent hi-def outing for classic 1980s slasher *Graduation Day*, this feature-length doc lets some of the genre's leading ladies reminisce about the horror industry.

★★★★★

**Gravity: Mission Control**

A fascinating nine-part documentary that tells you everything you could ever want to know about the technical challenges that had to be overcome to create Alfonso Cuarón's sci-fi smash.

★★★★★

**The Furious Gods: The Making of Prometheus**

Ridley Scott's films always come loaded with extra features (remember *Blade Runner?*) and *Prometheus* is no exception. This is easily one of the best *Making of...* docs ever made.

★★★★★

**Episode Reconstructions**

Only 20 of the 49 episodes of the BBC sci-fi series *Out of the Unknown* still exist in the archives. Thankfully, the BFI's DVD boxset uses surviving audio and stills to reconstruct several of these missing shows.

★★★★★

**Evolution with Extinction**

Clocking in at around two hours, this eight-part supplement looks at every aspect of the creation of Michael Bay's *Transformers: Age of Extinction*, from developing the story right up to the film's Hong Kong premiere.

★★★★★

Top 10 SUBWOOFERS

All prices are approx & may have changed

- 

SVS SB-2000 → £650 ★★★★★
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. HCC #233
- 

JL Audio Fathom F212 → £5,900 ★★★★★
The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! HCC #214
- 

Tannoy TS2.12 → £550 ★★★★★
The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich bass performance. Affordable and good-looking, too. HCC #208
- 

REL S-5 → £1,600 ★★★★★
A step up from the T series (below), this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. HCC #234
- 

Bowers & Wilkins DB1 → £3,250 ★★★★★
Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. HCC #197
- 

REL T-7 → £650 ★★★★★
The T-7 uses an 8in driver in tandem with a 10in passive radiator, and features simultaneous speaker-level and LFE inputs and Class A/B amplification. An excellent all-rounder. HCC #223
- 

Bowers & Wilkins PVID → £1,200 ★★★★★
One of the coolest-looking subs on the planet, B&W's PVID uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. HCC #212
- 

JL Audio E-Sub e112 → £2,050 ★★★★★
This 12in, 1,500W model from JL Audio's 'entry-level' line seems pricey, but its performance, design and tuning options make the investment oh-so worthwhile. HCC #240
- 

REL Habitat 1 → £1,300 ★★★★★
With its LongBow wireless system and wall-mountable design, REL's newest woofer is aimed at those seeking discreet bass. Twin 6.5in drivers work fast and with considerable grip. HCC #231
- 

SVS PB-2000 → £750 ★★★★★ NEW ENTRY
The ported sibling to the SB-2000, this woofer uses the same driver and amp arrangement, but in a far larger cabinet. Bass goes deeper, but not at the expense of finesse. HCC #243

TECH INFO



Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

The LEGO Movie: This colourful, great-looking animation from Warner Bros is a visual treat on Blu-ray, and matched by a 5.1 DTS-HD Master Audio mix that revels in its use of the LFE channel. Stonking bass is the order of the day here – the bangs, thumps and explosions of the manic 'toon action are underpinned by a forceful, full-bodied low-end that's guaranteed to get the most out of your subwoofer.

Top 5 HD GAMES



Halo: The Master Chief Collection
Xbox One releases don't come much more essential than this collection of remastered HD versions of the first four *Halo* games, plus access to the beta version of the upcoming *Halo 5*. ★★★★★



Far Cry 4
Ubisoft cements its position as the undisputed king of the 'sandbox-shooter' as it serves up a beautifully-rendered and sonically immersive Nepalese nation state for you to blast your way around. Huge fun. ★★★★★



Alien Isolation
This fantastic 'survival-horror' captures the unsettling atmosphere of Ridley Scott's feature film with aplomb. The lighting effects and audio cues are suitably spooky, and the gameplay is nerve-shredding. ★★★★★



Middle-earth: Shadow of Mordor
A third-person adventure set between the events of the *Hobbit* and *Rings* trilogies, Tolkien fans will lap this up. Graphically rich, and with a hard (but rewarding) learning curve. ★★★★★



Titanfall
EA redefines the online shooter with this breathtaking arena blaster. Titanfall ups the ante on the competition with fluid run-and-gun mechanics, giant mechs you can take control of and gorgeous graphics. ★★★★★

TOP 10 ACCESSORIES

All prices are approx and may have changed

- 1 Now TV box → £10 ★★★★★**
 An unqualified bargain, this Wi-Fi VOD streamer from Sky (and built upon Roku hardware) brings BBC iPlayer, Demand 5 and the Roku Channel Store to any HDMI-toting telly, plus subscription access to Sky Movies and Sky Sports. The quality of the adaptive bitrate streaming is impressive, and the £10 tag gets you P&P and an HDMI cable. *HCC #226*
- 2 Devolo dLAN 650 Triple+ starter pack → £120 ★★★★★**
 This package makes Powerline networking fast (claimed at up to 600Mbps) and easy. The three-port Ethernet extender is sleekly designed, and provides a regular plug socket, too. *HCC #239*
- 3 Dune HD Base 3D → £250 ★★★★★**
 A media player for the AV enthusiast. Full-width and fully-featured, it provides support for 3D BD rips and much more, with a slick user interface and plenty of connectivity. *HCC #235*
- 4 Sony MDR-HW700DS → £450 ★★★★★**
 Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening. *HCC #234*
- 5 Amazon Fire TV → £70 ★★★★★**
 A media player for the Smart generation, this affordable puck features class-leading voice recognition that makes content browsing fun – indispensable for Amazon Prime lovers. *HCC #243*
- 6 HDAnywhere mHub → £1,000 ★★★★★**
 An impressively flexible multiroom solution that allows HD video and audio to be sent via Cat cable to four displays from multiple sources. Includes HDMI mirroring, too. Handy. *HCC #240*
- 7 Philips Hue → £180 ★★★★★**
 These Wi-Fi enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 8 Monitor Audio Airstream A100 → £400 ★★★★★**
 Partner your TV with the speakers of your choice with this networked, AirPlay-streaming two-channel amp. Great, svelte design – bit awkward to control, though. *HCC #238*
- 9 Microsoft Xbox One → £430 ★★★★★**
 Not as graphically potent as the PS4 (below) but the new Xbox lives up to its billing as a home entertainment hub – voice control and multi-tasking tricks prove very useful. *HCC #230*
- 10 Sony PlayStation 4 → £350 ★★★★★**
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. 3D Blu-ray playback has now been added via firmware. *HCC #229*

TECH INFO: MEDIA PLAYERS



What about my TV?: Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 BLU-RAY/DVD BOX SETS


Camera Obscura: The Walerian Borowczyk Collection

Produced with the help of fans via a crowdfunding scheme, this celebration of the controversial filmmaker is one of the most astonishing BD sets ever made.

★★★★★


Fargo: The Complete First Season

Based upon the celebrated crime thriller from the Coen brothers, this 10-part FX network series is one of 2014's best – an addictive, brilliantly-cast black comedy. Good extras on this BD set, too.

★★★★★


Vincent Price in Six Gothic Tales by Edgar Allen Poe

Limited to just 2,000 copies, this bumper boxset boasts feature-packed editions of six classic shockers starring the 'Merchant of Menace', four of which make their UK Blu-ray debut here.

★★★★★


Doctor Who: The Complete Eighth Series

He might have a new face and new attitude, but where this Blu-ray boxset is concerned it's business as usual for the BBC's Time Lord – namely stunning HD visuals and impactful 5.1 audio.

★★★★★


Twin Peaks: The Entire Mystery

Both seasons of the US cult TV series and the prequel flick ...*Fire Walk With Me* are given a fan-pleasing 10-disc BD release, sporting 7.1 DTS-HD audio and a treasure trove of bonus bits.

★★★★★

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PROI3401 1m £14.31	PROI3402 2m £20.18
PROI3405 5m £26.99	



PROFIGOLD PROA5600 SERIES

Digital Optical Cable – TosLink.

Features: Profigold toslink male to toslink male digital optical cable.

- Pearlsised chrome plated metal connector with metal inner case.
- Superior flexible outer cable jacket.
- Solid black coated non-reflection jacket

Available in 4 lengths:

PROA5601 1m £15.31	PROA5602 2m £18.88
PROA5603 3m £19.39	PROA5605 5m £20.42

TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Pure Avalon 300R Connect, 1TB, £350**

Pure's debut Freeview+ HD offering is assured. While it can't match YouView for VOD content, the user interface here is unrivalled and four-way HDMI switching a welcome addition

★★★★★

**Panasonic DMR-BWT740, £500**

A 1TB Freeview+ twin-tuner PVR married to a BD player/burner = insane levels of recording/archiving flexibility. Ideal for programme hoarders, but not the slickest box to use

★★★★★

TOP 5 SOUNDBARS

**Yamaha YSP-2500, £800**

An HDMI-switching 'digital sound projector' using Yamaha's Beam tech to craft impressive surround sonics from its drivers. Efficient subwoofer, plenty of detailing and fun/useful app control make it stand out

★★★★★

**Canton DM 75, £450**

Bigger and bolder than the already excellent DM50, this sturdily-built soundbase speaker may lack HDMI inputs but makes up for it with Bluetooth streaming and a full-bodied 2.1-channel performance

★★★★★

**Monitor Audio ASB-2, £1,000**

This premium proposition marries Monitor Audio's C-CAM drivers with AirPlay and DLNA music streaming. Performance is exemplary – powerful and polished in equal measure

★★★★★

**Philips HTL9100, £600**

A soundbar/sub that incorporates two removable side speakers to allow it to become a wireless 5.1 system, this Philips is a neat proposition. Easy to install and with a heavyweight sound

★★★★★

**Q Acoustics Media 4, £400**

A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced and impressively solid 2.1 soundscape. Punchy, controlled and well-built

★★★★★

TOP 5 SYSTEMS

**Panasonic SC-BTT505, £600**

Two-way driver arrangements in these grown-up looking speakers (plus a dizzying range of features) make this a great purchase. Big, dynamic sound, with strong dialogue

★★★★★

**Samsung HT-H7750WM, £850**

The top-flight system from Samsung in 2014 uses tallboy speakers all around. Plenty of features here, and a fulsome 5.1 performance, but the build quality is a bit disappointing

★★★★★

**Harman/Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

Audio expert We chat to Dolby's Senior VP Ian Allen about the past, present and future

Sony's 2015 plans What to expect from the Big S
The stars of the show All the demos, launches and industry gossip from the Bristol Show

→ ON TEST

Onkyo TX-NR3030 11.2-channel AV receiver
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- ✓ High brightness

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POINT OF VIEW

After watching an advert for a Bluetooth speaker with onboard Artificial Intelligence, **Richard Stevenson** worries that his AV life is about to get a little bit *2001: A Space Odyssey*...

PERHAPS I HAVE watched one too many 'Artificial Intelligence machine goes mad, kills people and takes over the world' movies – and let's face it, there have been a few – because amidst the post-CES analysis, rhetoric about 8K video and global legislation on the use of drones to take pictures of your neighbours in their hot tub, a device emerged that gave me a cold shiver. A device that will almost certainly be one of the first hubs in a true Internet of Things, armed with an AI going by the female name of Alexa. I'm scared already.

Had this been launched by some over-polished über-corporate enterprise, like Apple, one could have drawn even greater parallels to at least half-a-dozen apocalyptic movies. But it was launched by a book seller that spent most of its formative years in and out of administration. Yet it is Amazon's pervasiveness in our everyday lives and its library of written and recorded media that makes its Echo device potentially game-changing.

You might not have heard of Echo, because at the moment it's only been made available to a select few recipients (it's still in Beta testing, apparently) hand-chosen by Skynet. Sorry, I mean Amazon.

Echo is an internet-connected Bluetooth speaker with voice recognition and AI feedback, just like Siri or OK Google. The difference being this is a home device that is permanently connected, permanently listening. It listens using stupendously clever mic and noise-cancelling technology that will hear you from the other end of the house, or pick out your voice even if your AV system is doing 11-channel mayhem in the same room. It has access to not only the full gamut of the internet, but also Amazon's entire portfolio of media, words, shopping, services and user data acquired by the world's biggest retailer over many, many years.

So looking at my back-catalogue of Blu-ray purchases, it wouldn't take much AI genius for Alexa to wonder if I wanted to put *Ex Machina* on pre-order, or pick up *I, Robot* on BD while it is on special offer. She knows I have never bought that film on BD and probably knows that I borrowed The Beek's copy and never gave it back. Imagine Siri or OK Google delivering much more accurate and focused results, all delivered by voice feedback without a screen. Integrate that into your connected home and **the next thing you know Alexa is closing your blinds, locking the front door and giving you instructions in a firm voice.**

Jeff speaks the truth!

Clearly the rest of the tech world is at the 'Wow! What a wonderful new gadget!' stage. Well, just let me quote a Jeff Goldblum line at this point: 'That's how it all starts. Later there's running. And screaming.' You have only got to watch Amazon's Echo promotional happy family video to see what I mean. 'I didn't know what it was when it arrived in the post. Is it for me, Daddy?' says the little girl. 'No darling, it's for everyone,' enthuses her father, oblivious to the technological monster he's unleashed on the household.

So my advice is: pay heed to sci-fi flicks and be vigilant out there in Home Cinema Land. Amazon's Echo is the first of many such menacing devices in the Internet of Things that will pervade our homes and lives, and probably take control of them. And, dear reader friends of the last seven years, if I am not here writing this column next issue, you will know I was right ■

*Do you want your AV devices to be dumb or Smart?
Let us know: email letters@homecinemachoice.com*

Richard Stevenson hasn't yet managed to get his dog to understand basic voice commands, let alone his smartphone



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